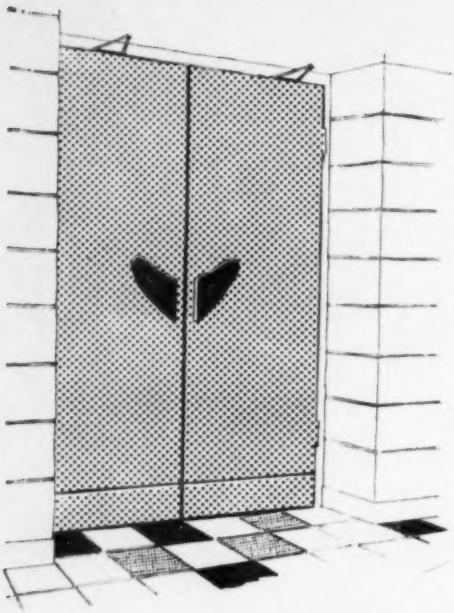
THE ARCHITECT & BUILDING NEWS

25 FEBRUARY 1959 VOL. 215 NO. 8 ONE SHILLING WEEKLY

- **WELFARE BUILDING, MANCHESTER**
- **FIBRE BUILDING BOARDS**

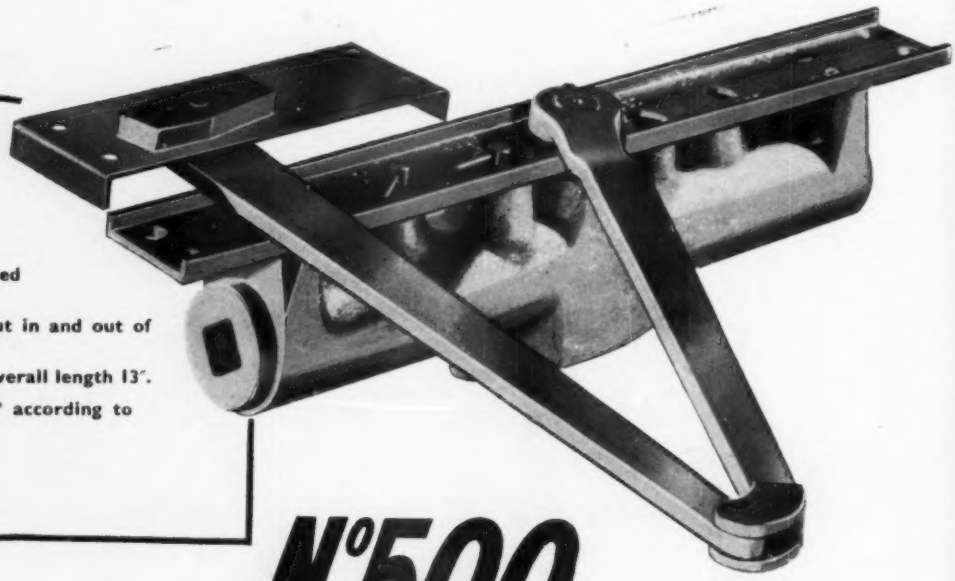
PUBLISHED IN LONDON SINCE 1854



Only the SLIM arms can be seen

The "No. 500" is a new door closer designed for use when the appearance of the door and surroundings are of first consideration. With nothing visible except the slim arms, which are styled to be as streamlined and unobtrusive as possible, it achieves complete concealment without loss of power or door control. The "No. 500" is suitable for internal single-action doors not exceeding 7′ by 3′ in size, and 70 lbs. in weight.

- ★ Smooth and silky check-action.
- ★ Bounce completely eliminated.
- ★ Closing and latch speed fully adjustable.
- ★ Stand open device put in and out of action as desired.
- ★ Body only 1¾″ wide, overall length 13″.
- ★ Opens to 90° or 180° according to fixing position.
- ★ No oil leakage.



N°500

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Concealed Overhead Door Closer

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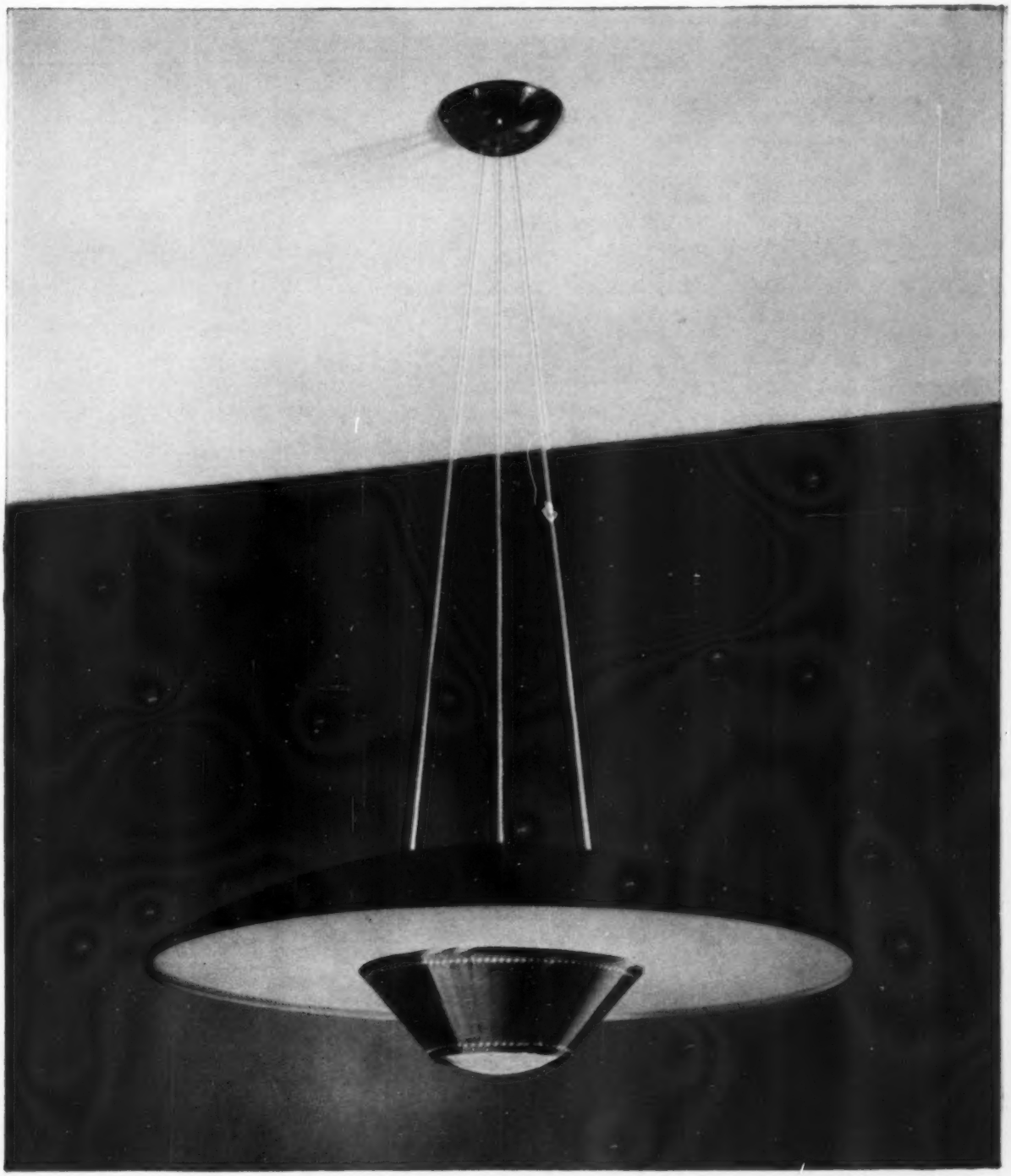

europa

from the FALKS range of contemporary fittings

designed by J. M. Barnicot M.S.I.A. of Falks

This fitting was selected by the council of Industrial Design for display on their stand at the Brussels Universal and International Exhibition 1958.

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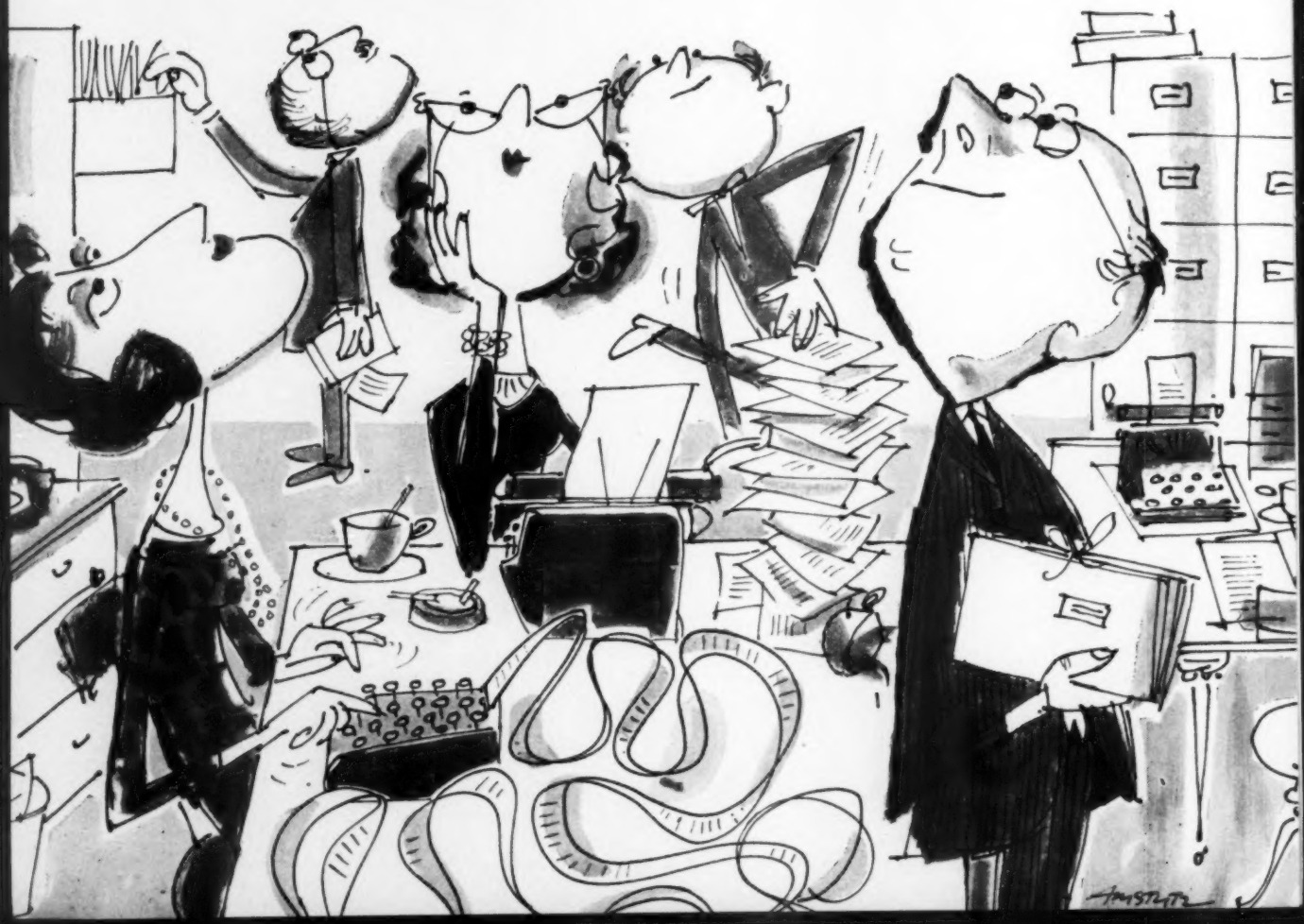
AP89

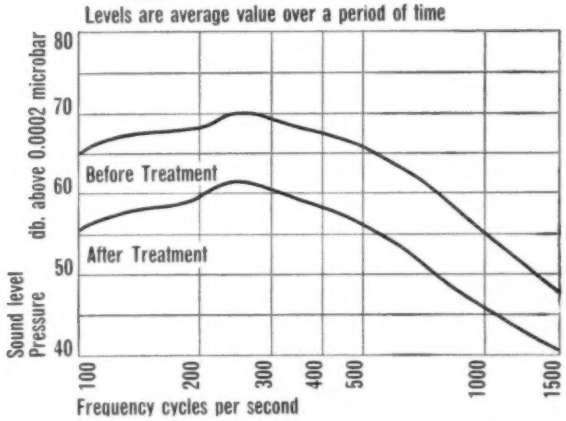
A

THESE PANELS CAN CUT SOUND ENERGY IN OFFICES BY



84%

Levels are average value over a period of time



Now—wait a minute—that doesn't mean to say you'll get a practically 'dead' room. Sound Energy, which can be expressed in percentages like the one above, is not quite the same thing as Noise, which is measured in decibels—though the two are directly related. Look at it this way: after treating a room with Bowater T/A Panels, you could increase the source of noise up to TEN TIMES before the original noise level was reached. This makes T/A Panels tremendously valuable in offices, shops and stores, cafés, canteens and restaurants, where constant din saps staff efficiency and doesn't attract customers either.

This graph shows the level of noise in a typical office with its typewriters, telephones, and duplicating machinery before and after treatment with Bowater T/A Panels. The room chosen had a 10′ ceiling, an 18′ x 14′ woodblock floor, hard partition walls, a plaster ceiling with windows one end only. In this case, the ceiling alone was treated.

T/A Panels cut down the clatter in this busy accounts office.

- Strong sandwich construction keeps the panels flat on wall or ceiling. 2 ft. sq., 1 in. thick.
- Low thermal conductance figure: C value only 0.22.
- Decorated in a range of washable colours from the current I.C.I. "Dulite" range.
- Easy to fix—in three different ways.
- Supplied fixed and decorated from as little as 29/- per sq. yd.
- Flame retardant version available (Class I Spread of Flame Test) at extra cost.

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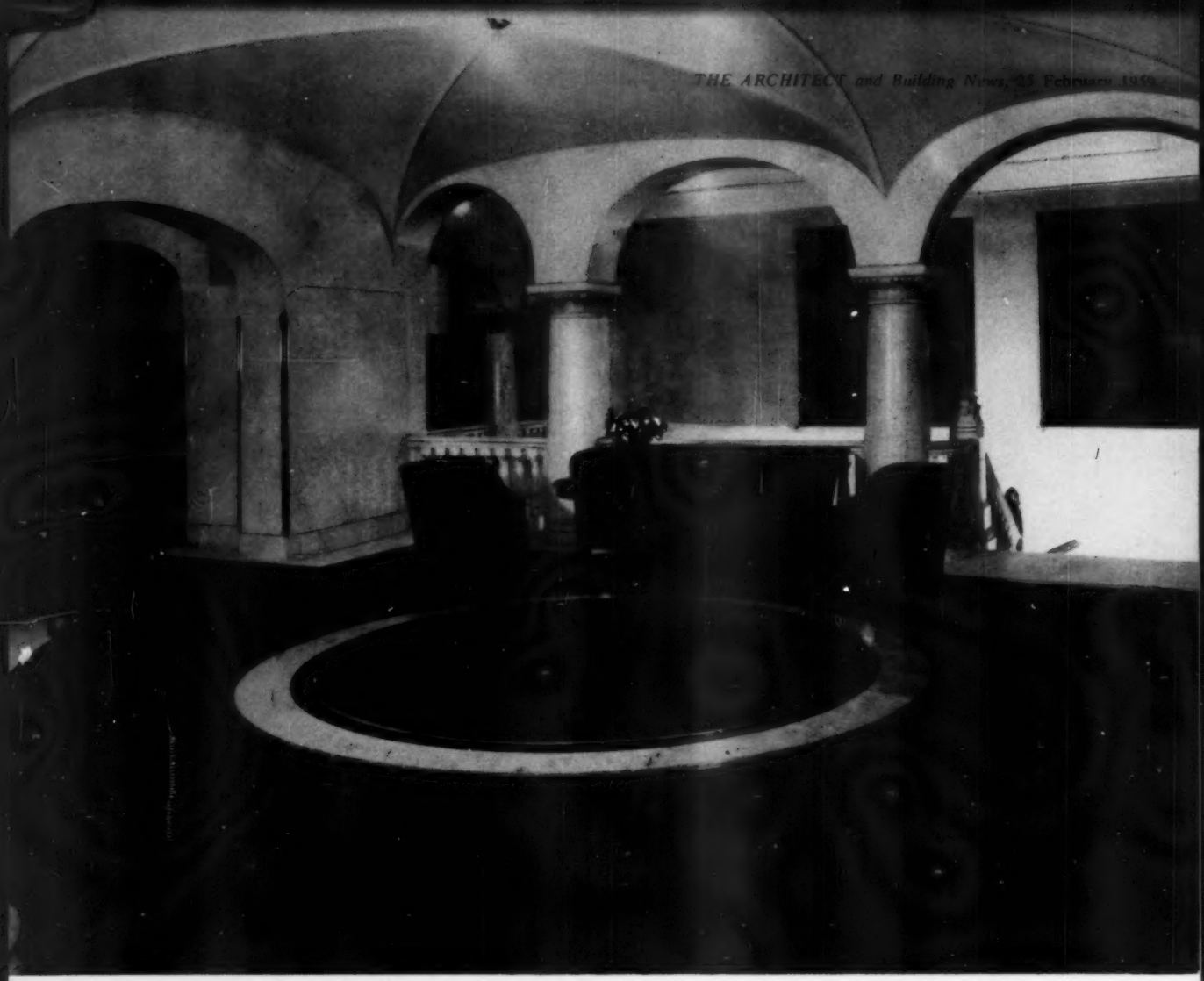

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RUBOLEUM is a superfine linoleum. It was first produced by us in 1907 in 6.70 m.m. thick (approx. ¼") but is now available in medium thickness 4.50 m.m. (approx. 3/16").

RUBOLEUM because of its properties of hygiene, resilience, durability, is a floorcovering of the highest quality. There is a decorative range of colourings, 35 in all, in plain and marble effects.

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6 OLD BAILEY, LONDON, E.C.4

THE ARCHITECT and Building News,
25 February, 1959

1 Shopfront for the Maryon Fashion Group Ltd., Ealing. Designed and installed by D. Drake & Son Ltd.

2 Office block entrance, Crosswall Street, London, E.C.3. Architects: Knapton & Deane, F.R.I.B.A., A.M.T.P.I. Shopfitters: F. Sage & Co. Ltd.

3 Office entrance for Lloyds Permanent Building Society, Manchester. Designed and installed by Garmack & Co. Ltd.

4 Shopfront at Weston-super-Mare. Architects: Fry, Paterson & Jones, F.R.I.B.A. Shopfitters: Parnall & Sons Ltd.

5 Chicken Inns (London) Ltd., Leicester Square, W.C.2. Shopfitters: Garmack & Co. Ltd.

6 Motor-car showroom entrance for Harvey Hudson Ltd., South Woodford, E.18. Architect: V. Fletcher Russell, F.R.I.B.A. Shopfitters: Stewart Fraser Ltd.

7 New store for Messrs. Williams Bros. Direct Supply Stores Ltd., Hatfield. Shopfitting by O. Peterson Ltd.

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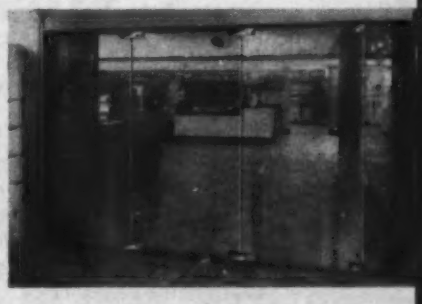
offers unlimited scope to the designer



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A*

monthly review by WILLIAMS & WILLIAMS

'WALLSPAN' FOR NEW B.O.A.C. WING HANGAR

1 Both ends of this vast new maintenance hangar at London Airport are glazed by Williams & Williams—the 2-story central workshop block being emphasized by a panel of 'Wallspan' set in a projecting concrete frame. Aluminium windows are set in the 'Wallspan' grid and three types of opening lights—top-hung, projected, and vertical-pivoted are incorporated. The spandrel panels are Vitroslab.

The basic design is an interesting solution to a recurrent problem in the design of aeroplane hangars whose height, after allowing for high-level services, is dictated solely by the tail-fin height of the various aircraft to be accommodated. Airliner design in recent years has tended towards increasing tail heights, and the hangar designer has been faced with a difficult economic problem since every foot of increased height is reflected in increased capital cost and higher heating, lighting and maintenance costs. Whatever height is decided upon may still prove inadequate for some new aircraft a few years hence. But on the other hand a reversal of the present trend—airliners designed on the Delta configuration for example—would result in hangar height becoming so much wasted space.

The new B.O.A.C. Wing Hangar, as the name implies, is designed to accommodate only the wings and fuselage of the aircraft—the sliding doors are shaped to close around the rear fuselage leaving the tail unit outside. Engines, undercarriage, flight deck, passenger cabin, wing fuel tanks and wing control surfaces—the usual objects of routine maintenance—are all under cover.

The reinforced concrete structure consists of a pair of hangar pens, each with a completely unobstructed 565 ft. wide opening and depth of 110 ft. arranged back-to-back but separated by a central two-floor workshop block. The hangar pen roofs are suspended by ties from this central block.

'ALOMEGA' WINDOWS FOR CORNISH COMFORT

2 This study flat is high up, midway between the coasts of Cornwall. The client wanted big windows for the sake of the panoramic views across to St. Ives but had misgivings about draughts. The architects' solution to his problem was to install 'Alomega' double hung sashes—heads, sills, jambs, and meeting rails all designed with integral weather-stripping to keep draughts out, even in a blustery south-wester coming across thousands of miles of Atlantic! Other reasons for specifying 'Alomega' —**no maintenance:** no cords or counter weights or balances to go wrong; no painting because the windows are all-aluminium: **easily adapted to a 3 ft. building module:** the 2 ft. 8½ in. width was used—others from 1 ft. 2½ in. to 3 ft. 5½ in.: **ideal combination with picture window**—see illustration opposite.

Last (but not least in these Subtopian days), the sash window is considered in a special way to be *the* window for the West Country and 'Alomega' happily combines the technical resources of today with the graceful design of the eighteenth century.

A further advantage which was not applicable in this particular instance, but of considerable value in congested urban sites, is the fact that with 'Alomega' the building can come right up to the building line.

NEW STANDARD WINDOWS CUT SITE COSTS—NEED ONLY ONE COAT OF PAINT

3 Williams & Williams standard domestic windows to BS 990 in both 1 ft. 8 in. and 2 ft. ('Z' range) modules are now available electro-galvanized, primed and *painted*. The windows are processed in an entirely automatic plant which is believed to be the largest of its kind in the world.

The assembled frames are loaded on to a conveyor — chemically cleaned, phosphated and electro-galvanized. Still on the same mechanical conveyor, the windows are dipped in a paint bath and stoved for 25 minutes at 310°F. They then receive a second sandy-beige coat and are finally stoved a further 25 minutes—again at 310°F. The paint technology of the operation has been worked out in collaboration with ICI and the paint used is their beige No. B215/166/2.

This process offers four major advantages:

1. Since the human element is eliminated, a much more even distribution of paint is assured.
2. *All* surfaces of the frames are painted, including those which will be in contact with the masonry and which in the ordinary course of events *could* not be painted.
3. The fact that both primer *and second coat* are stoved lends greater durability to the paint giving together with the galvanizing coat an efficient triple protection to the steel surface.
4. The second stoved coat can be regarded as an undercoat. Because of its light shade **only one finishing coat need be applied on site.**

WILLIAMS & WILLIAMS
RELIANCE WORKS · CHESTER

Member of the Metal Window Association

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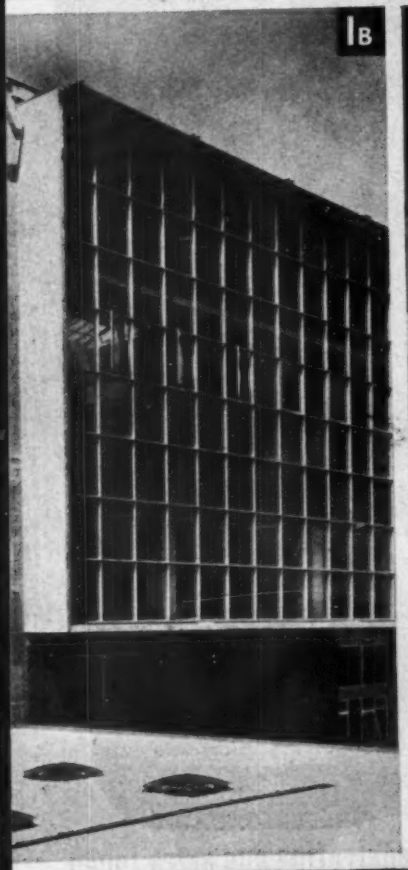
1 B.O.A.C. WING HANGAR, LONDON AIRPORT
Engineers for reinforced concrete structure: Sir Owen Williams & Partners.
New Works Manager, B.O.A.C.: L. B. Haley, M.ENG., A.M.I.C.E., A.M.I.H.V.E.
General Contractors: W. & C. French Limited.
A *General view—note the tails of Britannia aircraft protruding from the hangar pen on the extreme right of the photograph.*
B *Detail of the 'Wallspan' on the central workshop block—3 types of opening lights can be seen in the aluminium windows. Note the permanent railway along the cornice for the cleaners' cradle.*

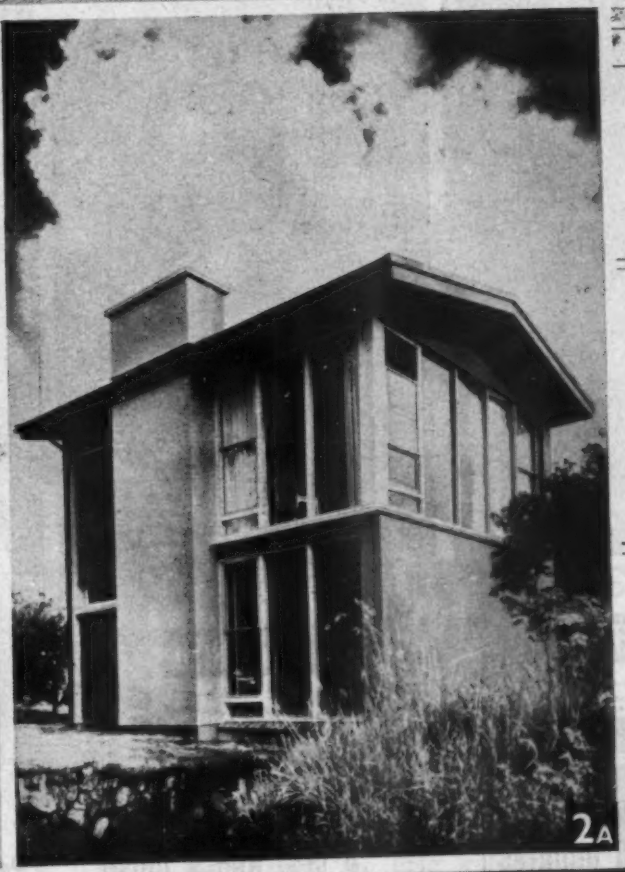
2 'LITTLE TREFEWHA', PRAZE, CORNWALL
Architects: Taylor & Crowther, Chartered Architects.
A *Exterior.*
B *Interior of the study showing how the 'Alomega' sash forms part of the glazed corner.*
C *Draughtproofing plastic extrusions at head, meeting rail and sill of 'Alomega' double-hung window.*

3 *Part of the automatic conveyor system on which Williams & Williams new standard paint-finished metal windows are processed.*

1A



1B



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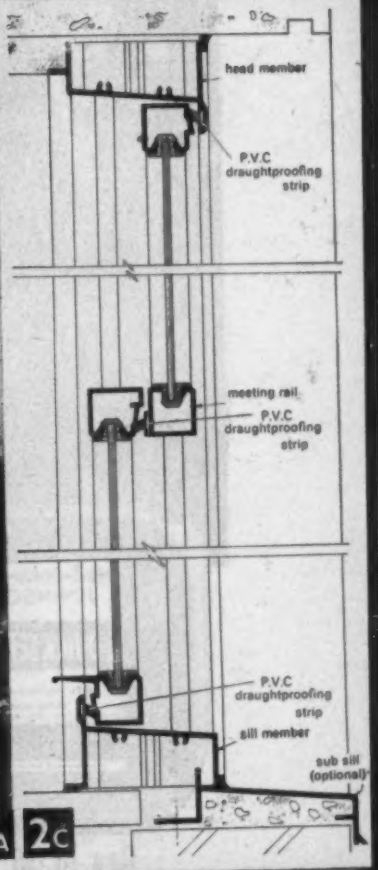

2C

2B

3

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An extremely quick-drying floor seal which becomes tack-free after 15 minutes and allows floors to be back in use within an hour of application.

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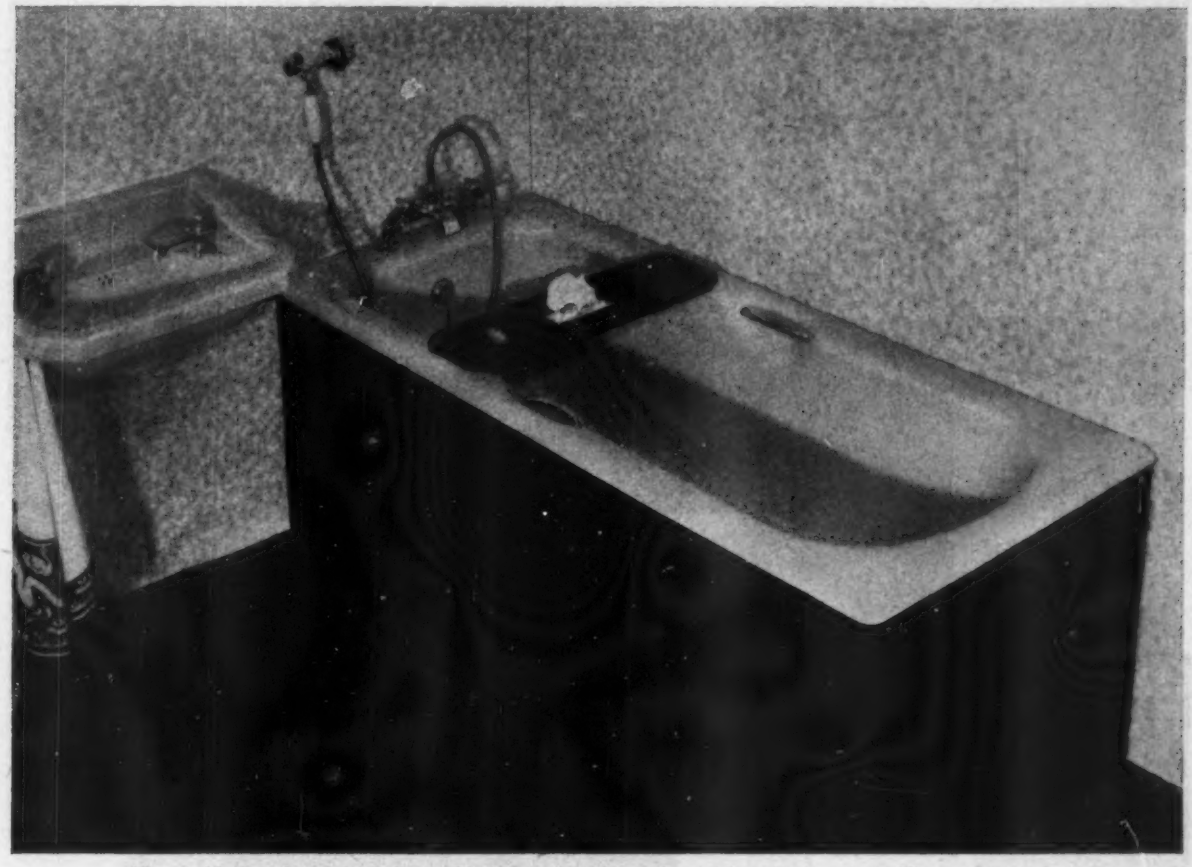
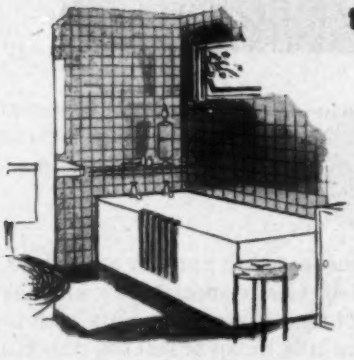
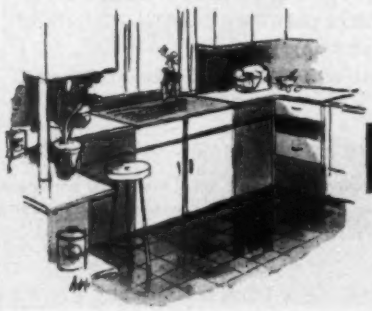


'Perspex' bath and wash basin in matching blue with side panel and tidy in black made by Thermo Plastics Ltd., Dunstable.

'Perspex' brings contemporary style and colour to bathroom and kitchen fittings





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Thermo Plastics Limited, Dunstable, make baths, wash basins, sinks, and sinks with drainers from colourful 'Perspex'. 'Perspex' can be heat shaped, and is light in weight.

'Perspex' is easy to clean and it will not rust or chip. It is not affected by hot water.

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Though we must confess that we have not yet succeeded in making a paint which will light up the dark, we have produced a whole series of specialities: amongst them—SILCOLAC which, by blending the best of traditional materials with the very latest synthetic resins, provides a porcelain-like finish of intense durability; DURESCO EMULSION COATING, a polyvinyl acetate emulsion paint with extraordinary opacity; TEXIDEC, a plastic texture paint which will withstand the rough usage of constant traffic in passages and corridors; TWINCOTE, the universal wall primer undercoat which is alkali resistant and possesses great hiding power. And many more . . .

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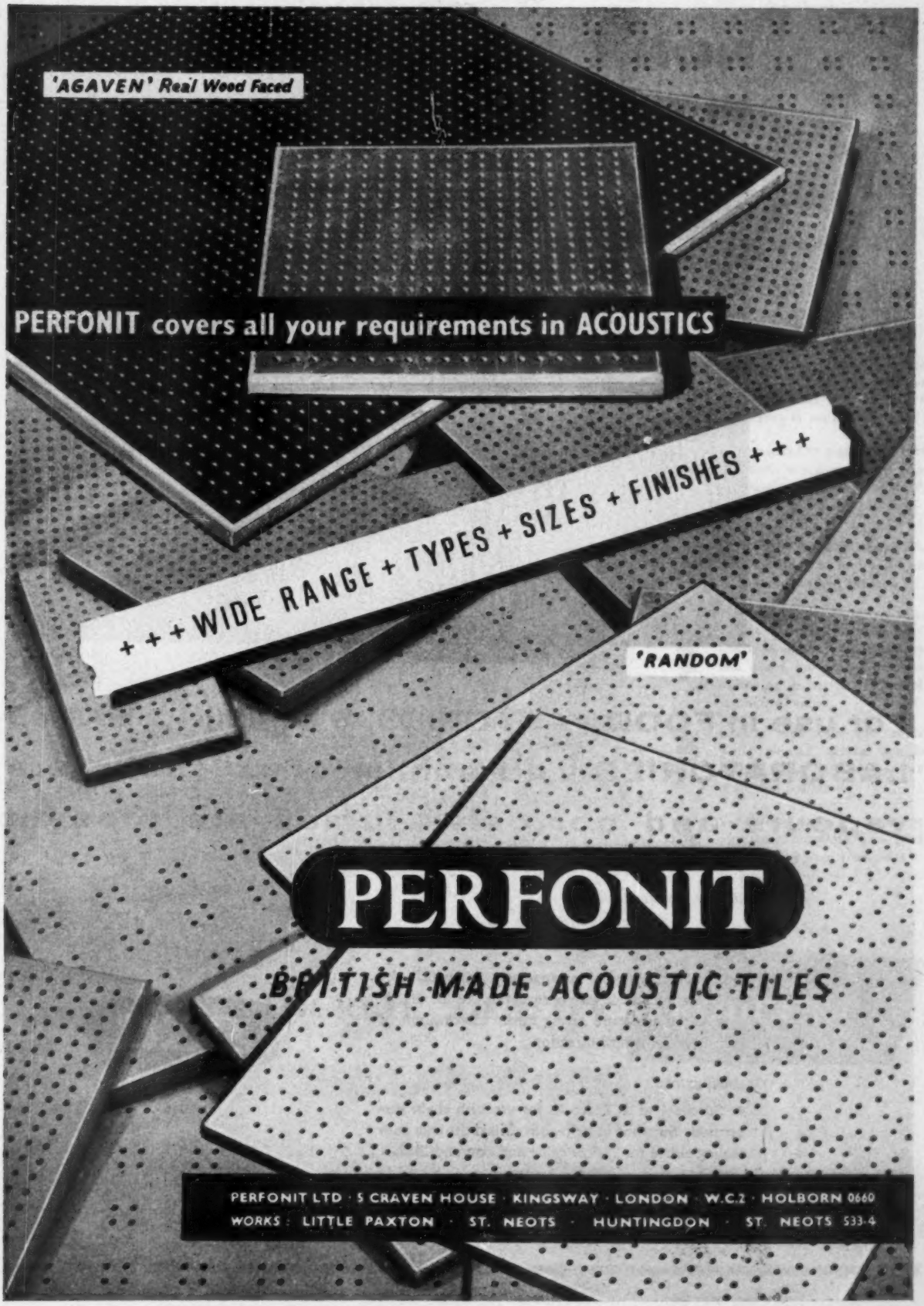
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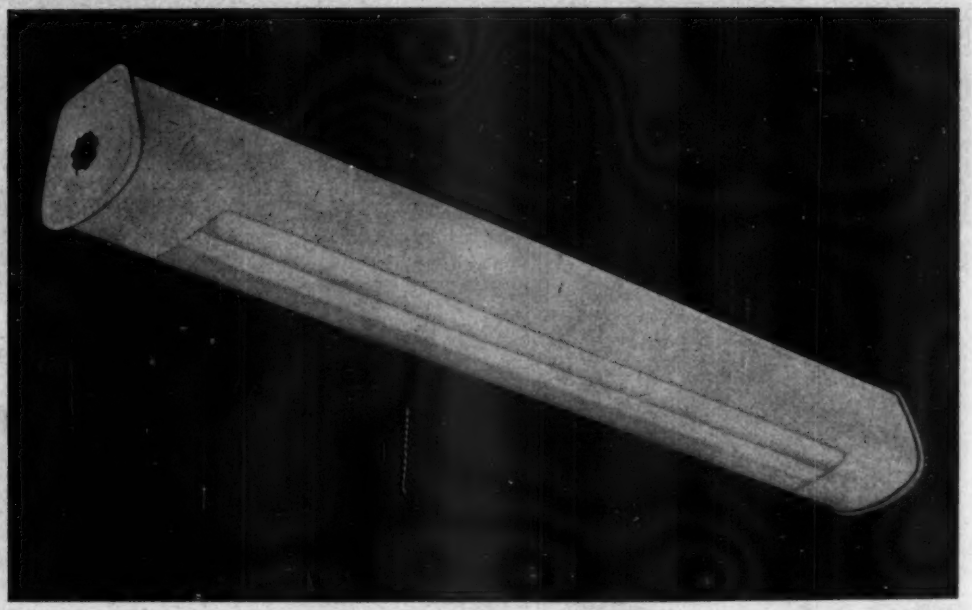

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...ing each charge
...ithdrawn by means
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Should water accidentally
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d the pile has to be re-driven.
practical assurance that a
water-cement ratio is always
...e. In fact this ratio is lower
...her system of in-situ piling.

...HING THE PILE

...g of the shaft can be stopped at
...e below ground level, always
...e shaft has attained the adequate
...ength for stability. Except in
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above the ground level from
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intensity (although they cause less vibra-
tion) than would be practicable if the
hammer were applied to the head of the
casing. Obstructions in the subsoil are thus
more readily overcome.

Secondly, the bearing capacity of a Frankipile is not calculated from a set pre-determined by empirical formulae. It is assessed from conditions actually encountered when driving the pile and forming its bulbous base. An exclusive feature of the Franki system is the compaction of this base (like the rest of the pile) by direct mechanical action.

LATE NEWS

LONDON—YORKSHIRE MOTORWAY

Progress is being maintained on the building of this new arterial road with its numerous bridges, under-passes and fly-overs. On 4 bridges alone, over 1,200 in-situ vertical and raking piles, some being to a rake almost 14°, and all carrying 50 tons each, had to be installed to support the Motorway at crossings of road, rail, river and canal. These sites provided a variety of conditions which called for adaptability and maximum output to meet the over-all project requirements. The piling contractors for this work are Messrs. Frankipile Limited, of 39 Victoria Street, London S.W.1, who offer a 95-page book free to Engineers and Architects.

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to carry the work...
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per cent greater than the desig...
load, and one of several meth...
employed to test them.

These methods are the dead loa...
which the weight is provided by st...
increments of kentledge bearing dir...
the pile cap, and two types of jack h...
the first of these types the weight of
test load of kentledge is gradually
ferred on to the pile by means of the j...
in the second, the jack operates not ag...
kentledge but against the uplift obta...
from adjacent piles.

These methods can be relied up...
equally accurate results, the cho...
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way as when the load on the pile was
increased.

When the pile is completely free of
final reading is taken. The difference
this and the reading under the full
is recorded as the permanent s...
Piles are normally tested sit...
also be tested in groups.

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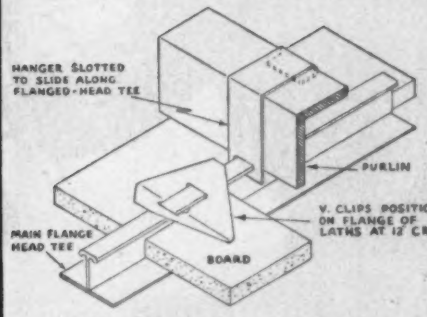
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PURLIN
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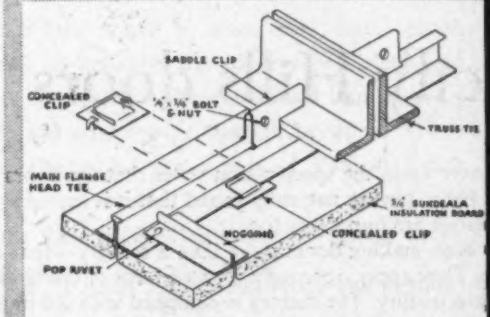
MAIN FLANGE HEAD TEE
BOARD

V Clip method for securing boards, showing suspension from Angle Purlin



Concealed fixing system, showing suspension from Truss Tie

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P.9088

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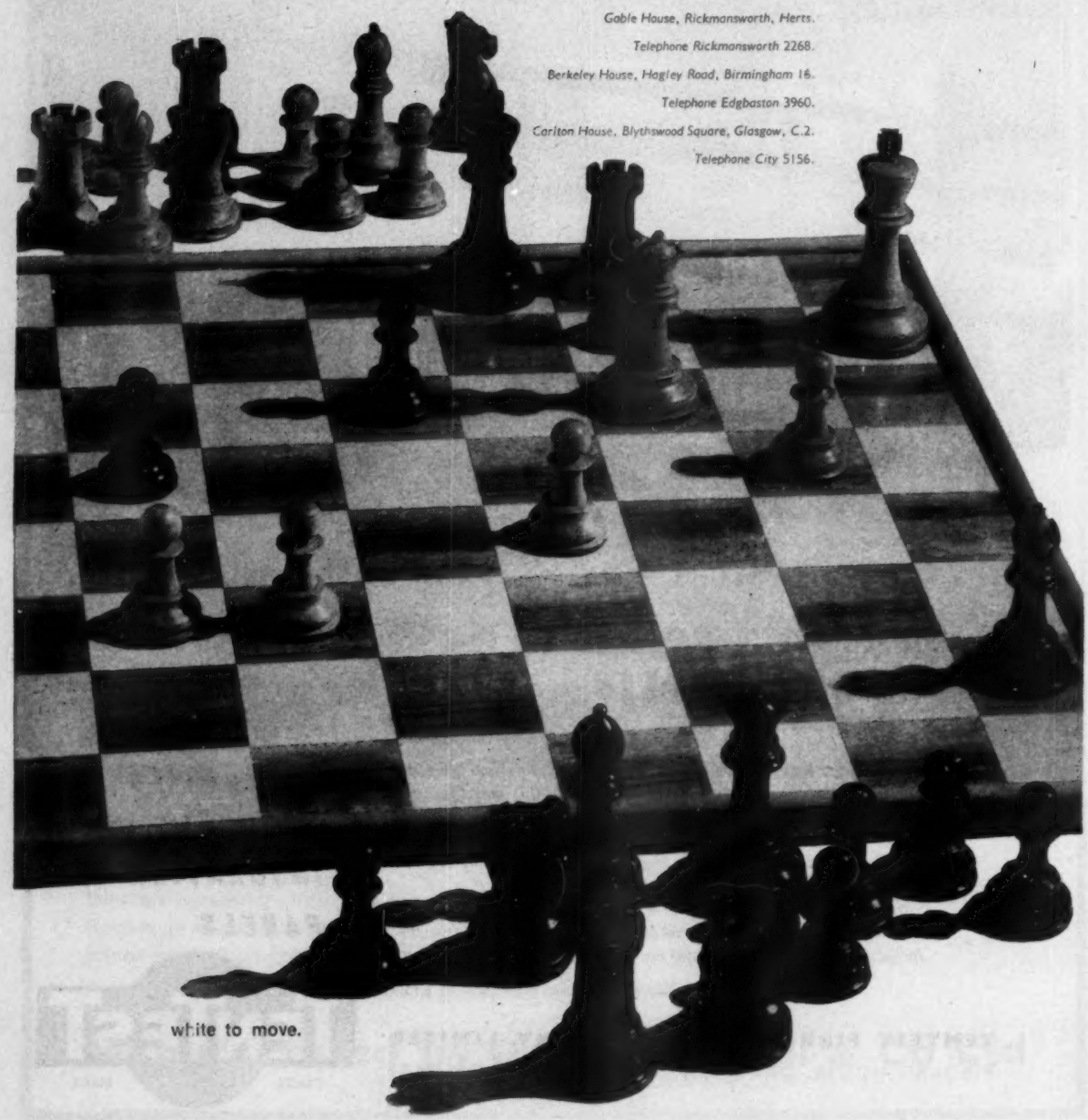

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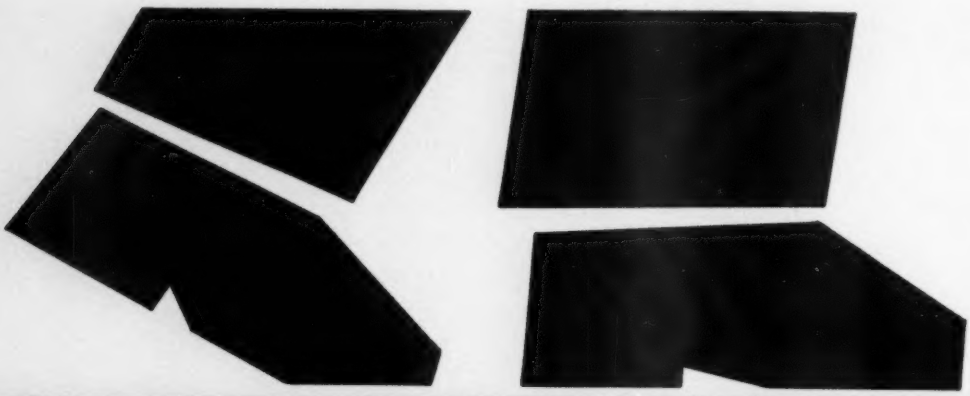

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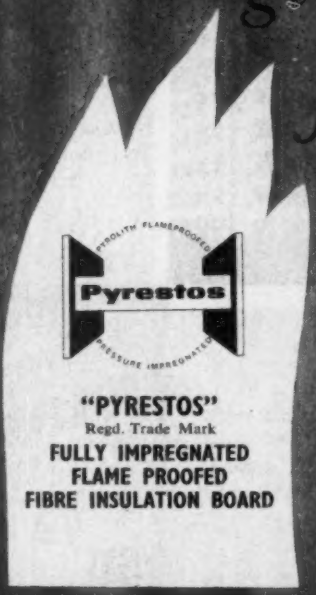

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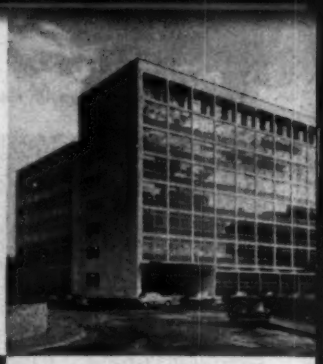

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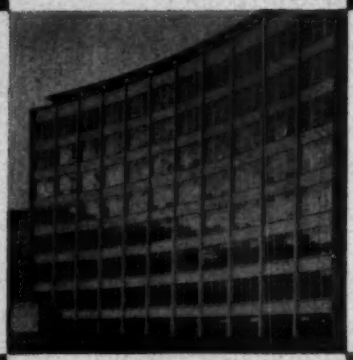

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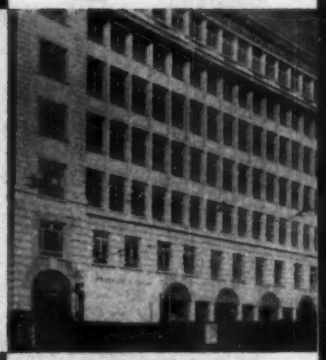
Architect:
H. Bramhill



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Architect:
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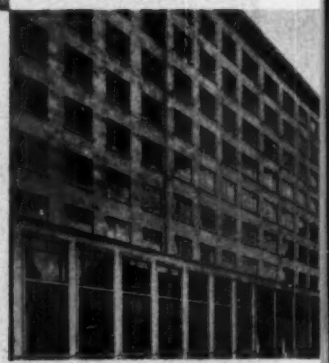

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FETTER LANE
Architects:
Hannen & Markham

BUCKLERSBURY HOUSE
Architects:
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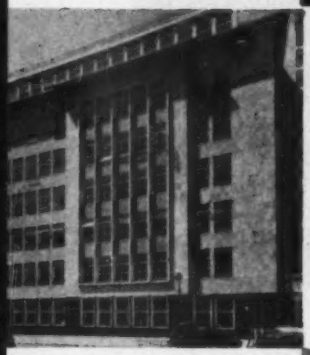

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Architect:
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Architects:
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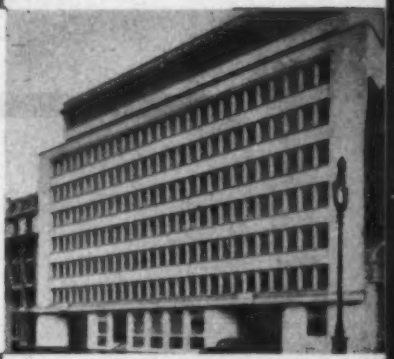

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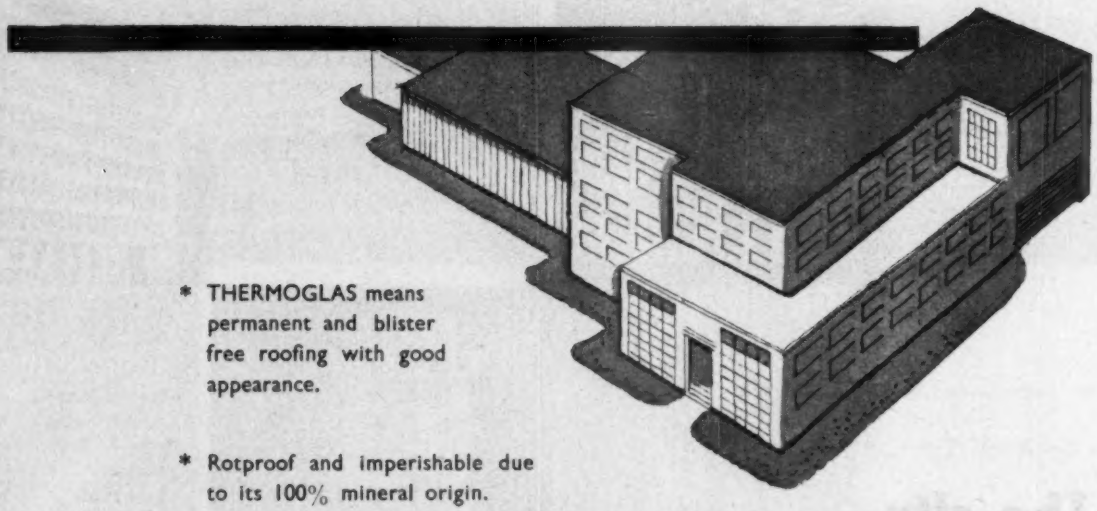

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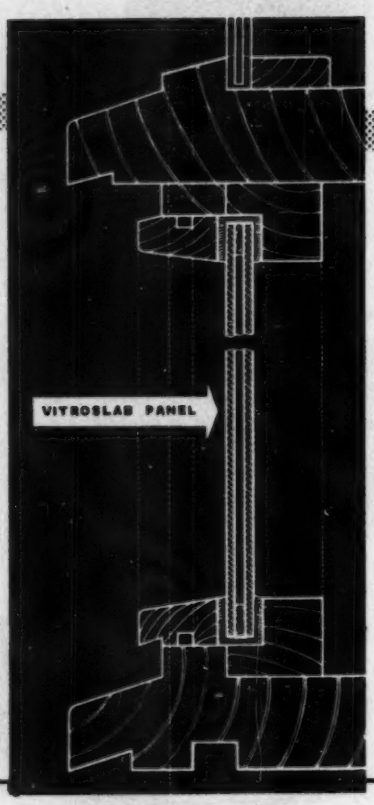
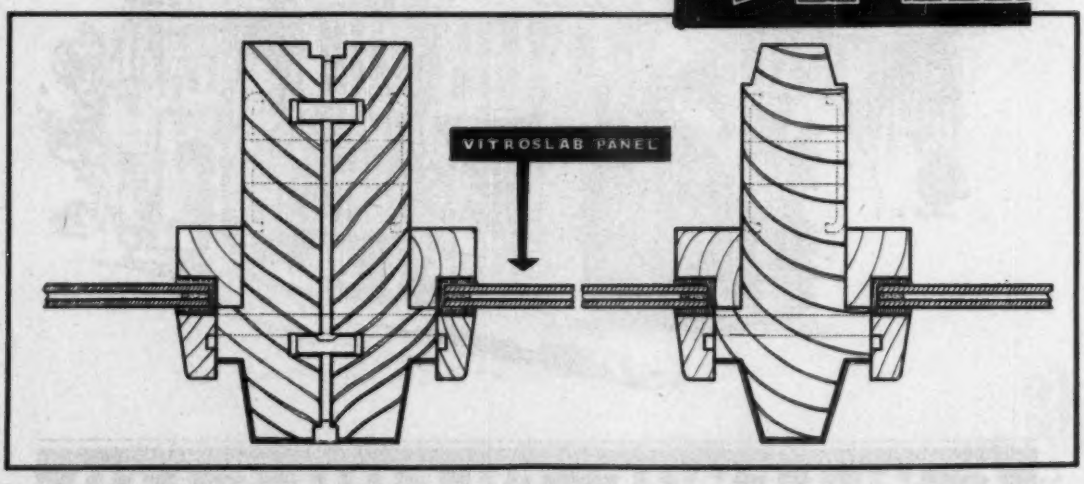
★ *VITROSLAB is manufactured by Plyglass Ltd., of Harlow. It consists of two leaves of glass with an interlayer of glass-fibre gauze, filled with pigmented plastic, giving bright clear colour, durable finish and excellent heat insulation.*





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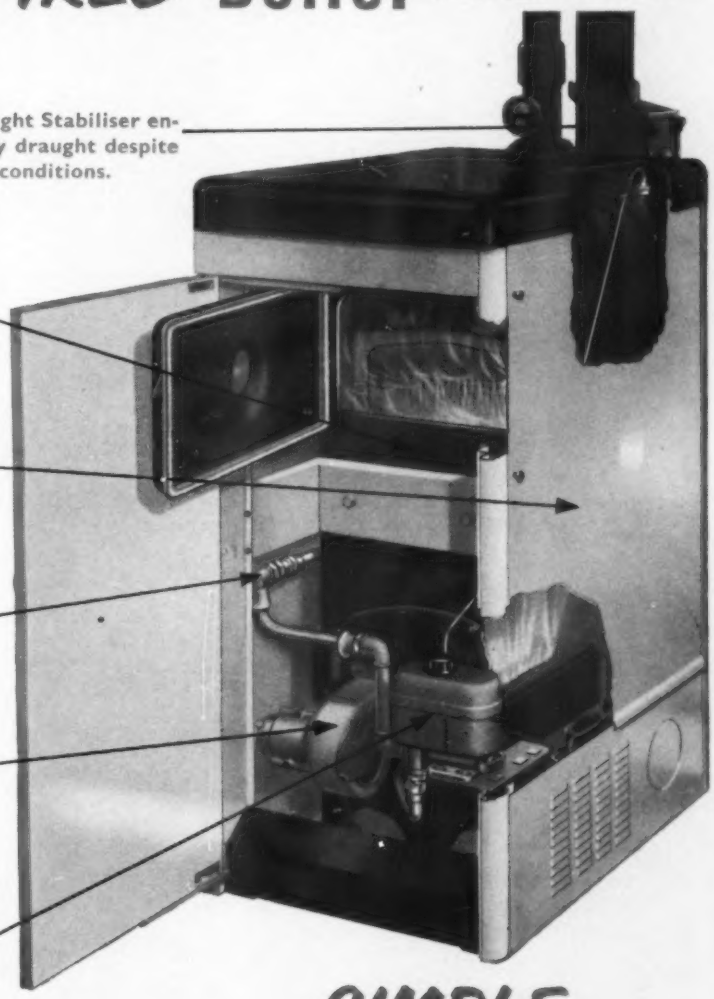

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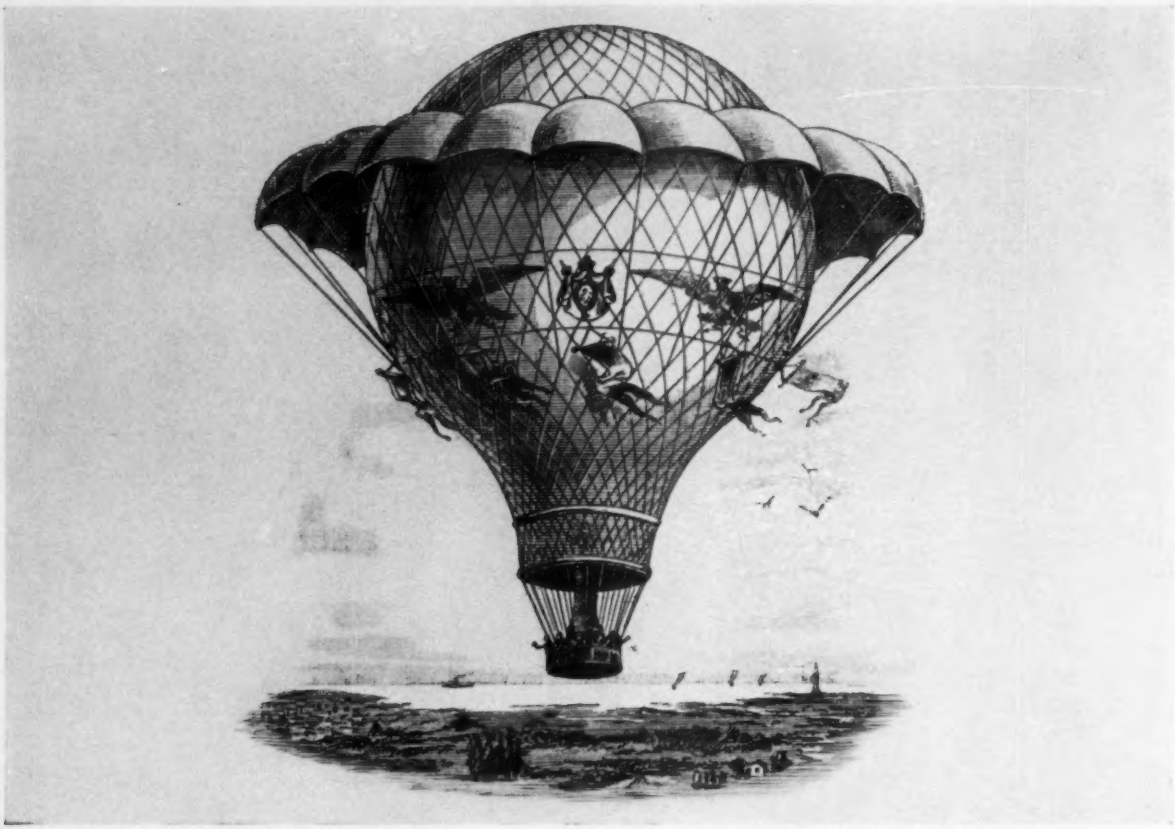

Hot air balloon 1864: Eugene Godard Hulton Picture Library

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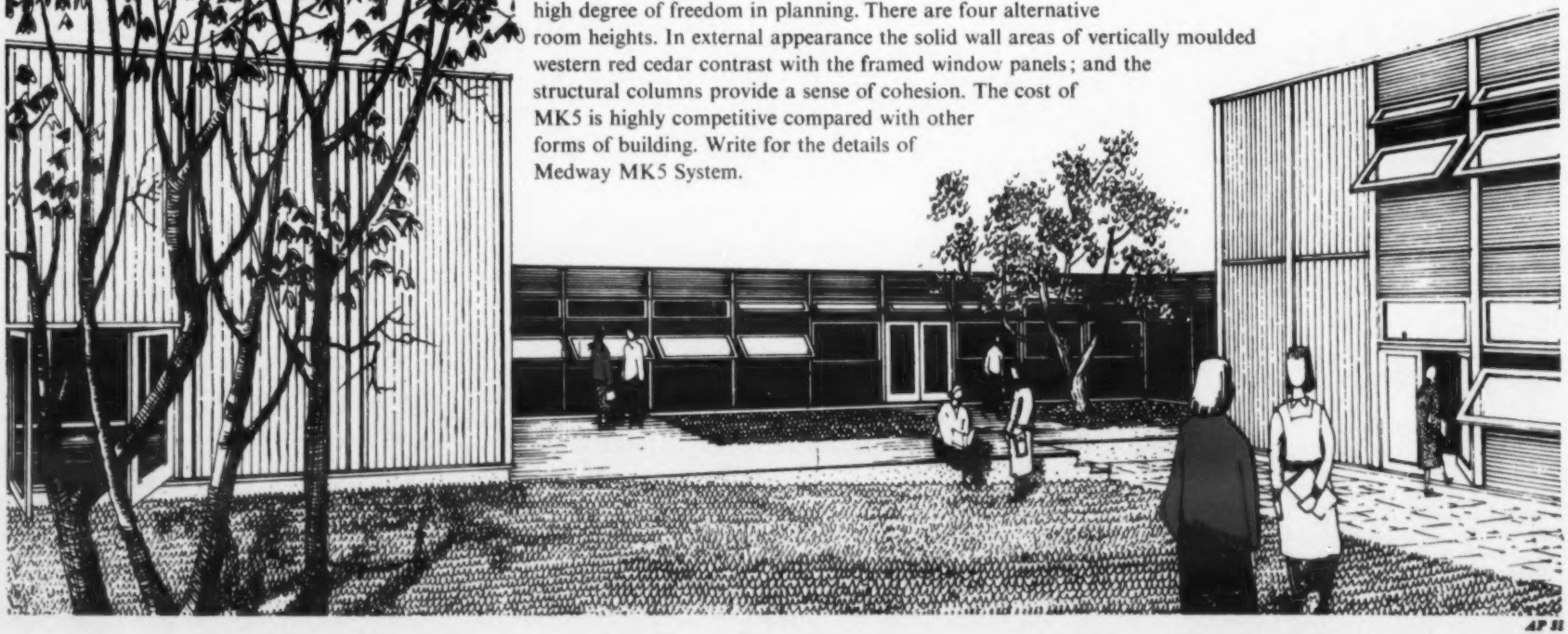

AP 31

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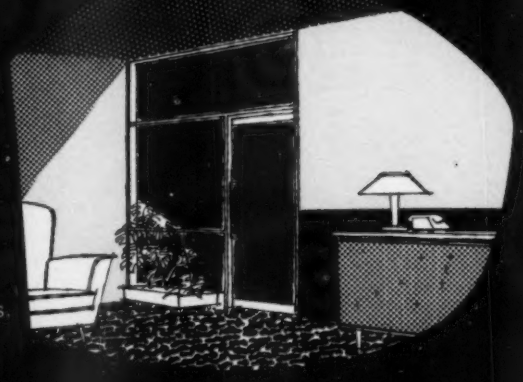

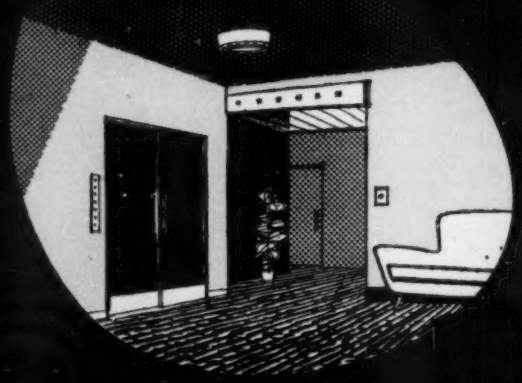

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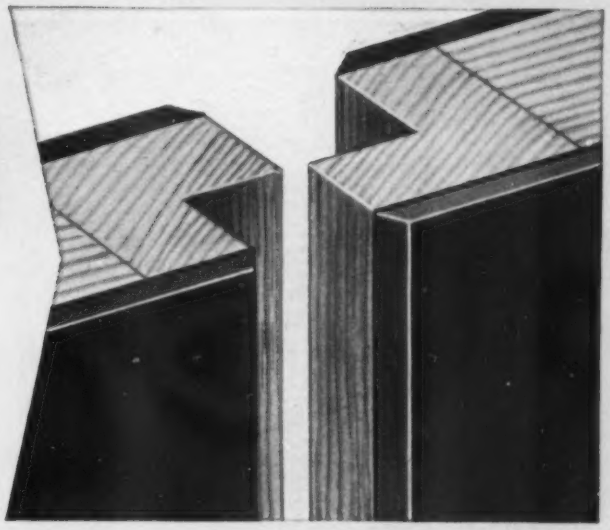

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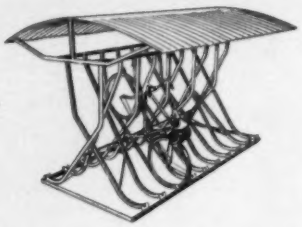
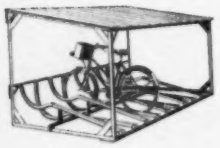
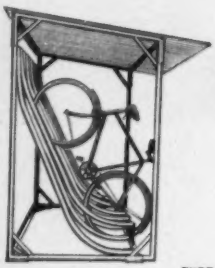
THERE TYPE "B"  **IS AN ABIX**

CYCLE STAND  TYPE "J" **TO SUIT**



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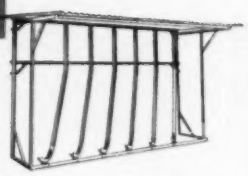

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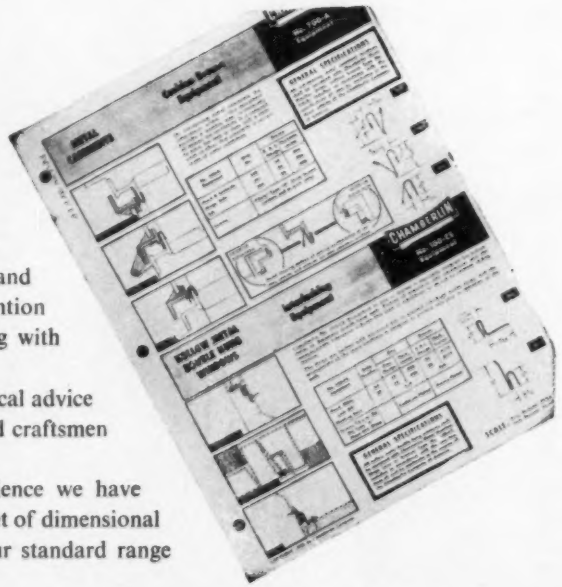

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Vol. 215 No. 8

THE ARCHITECT & BUILDING NEWS

25 February 1959

The "Architect and Building News" incorporates the "Architect," founded in 1869, and the "Building News," founded in 1854
Annual subscription: home, £2 18s. 0d.; overseas, £3 8s. 0d.; Canada and U.S.A., $10.00. Registered as a Newspaper
Published by ILIFFE & SONS LTD., DORSET HOUSE, STAMFORD STREET, LONDON, S.E.1
Telephone: Waterloo 3333 (60 lines). *Telegrams:* "Architonia, Sedist, London"
Branch Offices: Coventry: 8-10 Corporation Street; telephone, Coventry 25210. Birmingham: King Edward House, New Street, 2; telephone, Midland 7191. Manchester: 260 Deansgate, 3; telephone, Blackfriars 4412 and Deansgate 3595. Glasgow: 26B Renfield Street, C.2; telephone, Central 1265

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HOBSON'S CHOICE TODAY: WHOSE TOMORROW?

BUILDING SOCIETIES have often been criticized on the grounds that they are old-fashioned in outlook and over-cautious in lending policy. Their point of view has been explained by the chairman of the council of the Building Societies' Association in a letter published on another page of this issue.

No reasonable person would disagree with the fundamental principles of good business expressed in the chairman's remarks: "Building societies may be considered to be trustees of the savings and investments placed with them by the public . . ." ". . . the duty of the building society is to assist members of the public to buy the houses of their choice" " . . . the lending policy of the building society must proceed at the same pace as public taste and public demand." It is not over that policy but over how that policy is implemented that differences of opinion occur.

Building societies are governed by the Building Societies Acts of 1874, 1894 and 1939. The main Act is the first one, and it is not without interest to recall that it was passed in Disraeli's administration when income tax stood at threepence in the pound.

The enormous growth of home ownership in the United States of America since the war has been attributed to low down payments and interest rates which are generally much lower than in this country. Fittings, such as refrigerators and washing machines, are commonly included for mortgage purposes—a lead which might usefully be followed by building societies in this country.

Habits and living standards have been changing rapidly since the end of the war. It is most important, therefore, that traditional ideas about house design should change with them. There is, in the opinion of those who criticize the building societies, a conviction that the market for houses is steadily moving towards contemporary design. Many older houses find a ready sale today only because there is no better alternative. Most of them were designed at a time when a daily help was expected to cope with many of the chores. Methods of heating and standards of thermal insulation in many of them are out of date, and so they are costly to run and demanding on the housewife's time. The arrangement of space is often unsuited to modern needs. Many of them would be dead ducks if there were enough contemporary homes available on the market.

What is going to happen in the foreseeable future when, at the present rate of house building, the market will change from a seller's to a buyer's? Then the modern designs, the warmest houses, those more easily run and better equipped will be best sellers to the young families, many of whom will be influenced by the environment of the new schools. This is a challenge to, but brings with it an opportunity for, architects, builders and the building societies. It will only be met by the combined effort of architects and builders and building societies producing modern homes at prices and terms of payment most people can well afford.

EVENTS AND COMMENTS

ST. CATHERINE'S COLLEGE

Professor Arne Jacobsen arrived in this country last week and is reported as having conversations at Oxford about the design of St. Catherine's College. Statements so far issued go no further than saying that it is possible that he might undertake the design in collaboration with a British colleague. I understand that Professor Jacobsen speaks little English and it would therefore be a great advantage if any such collaborator could speak Danish or Swedish. This would narrow the field of choice very considerably among established British architects, although there are probably a number so qualified among the younger men.

Reaction to the possible appointment of Professor Jacobsen has been mixed—and muddled. Some letters in *The Times* have turned it into yet another debate between ancient and modern and plainly seek to keep our older universities as places of the deepest architectural reaction. Other writers would consider the appointment as a blow in the face for British architects, and think that the college authorities should only go abroad for a designer after they have closely examined the work of British architects. (It seems to me that it is quite possible that they have already done so.) Others again think there should have been a competition. *The Times* itself says, in so many words, that when one looks around at most post-war university buildings in this country it is hardly surprising that the dons of St. Catherine's went abroad. Of completed buildings that is certainly fair comment, but it is not a very fair judgment if all the buildings, so far seen only in the design stage, are included. There is plenty of good work on the way up.

I am inclined to think that the younger and, as yet, unknown generation of architects could justly complain that they were never given a chance and that a competition should be held. Established firms will have to take the appointment, if it is made, as part of the day's work. It could do British architecture no harm and might do it a lot of good. It could even provoke new outbreaks of Scandinavian architecture in our schools.

LE CORBUSIER EXHIBITION

More than 25,000 people will have visited the Le Corbusier Exhibition at the Building Centre by the time you read this. The Thursday evening lectures have been packed out and there is some doubt whether the supply of catalogues (5s each) will last out. The exhibition closes on March 6 and will not be seen again in this country. It goes from London to Rome and then to Milan.

WHO CARES? WHO INDEED?

The first of the series of four B.B.C./TV/Civic Trust films, under the general title "Who Cares?", was shown last week. The second was due yesterday. Mr. Douglas Jones, principal of the Birmingham School of Architecture, is the star, and very handsome too. The first film is called "Any Old Iron", and describes the work of a gang of volunteers who have set about clearing the coast of Pembrokeshire of deserted army camps and other Services ruins. Their work is admirable and much to be encouraged, but the film is dull, stilted and almost devoid of interest for the great Philistine public for whom it is designed. Mr. Douglas Jones plays his part a little fiercely. He gave me the impression that if any of his victims had failed to give the right answer he might have punched them on the nose.

I do not know what part the Civic Trust played in the direction of these films, but if all are as bad as this first one it will have thrown a lot of money away. Neither do I know whose idea it was that Air Chief Marshal Sir Philip Joubert should be brought in to try to make excuses for the Government. It is absurd to say that the Services cannot afford to tidy up their wartime mess, and it is a curious comment on the official attitude to subtopia that this part of it should have to be put right by a band of eccentric but public-spirited volunteers.

I imagine that the announcement "Who Cares?" on the screen may this week and in future get the bird, as they say, in many thousands of families.

YOUR TOWN

The great weakness of the Civic Trust at present seems to me to be that it wants to be friends with everyone. If it is not careful it will end up by being friends with none. You cannot tidy up Britain nor give its citizens more civic pride of the right kind without pitching into the perpetrators of horrors. Too many local authority officials are today dealing with matters of civic design, for which they are not qualified by their training. It is absurd for the Civic Trust, in its otherwise admirable booklet, *Your Town*, to urge amenity societies to work closely with their local authorities. Nearly all such societies have only come into being because of the ineptness of local authorities on preservation, development and civic design.

The booklet gives, for the most part, excellent advice on the setting up of an amenity society and even gives a model constitution. The dangers of "preservation at all costs" are mentioned and the importance of early information on local projects is stressed.

Any amenity society "worth its salt", to borrow a phrase from the booklet, will act as a pressure group and will never attain its objects "through friendly discussion and co-operation with the local authority". This idyllic situation may be possible with enlightened local authorities. But if they are enlightened there is no further need of an amenity society.

The Civic Trust is willing to provide financial help to amenity societies for specific purposes. It would be monstrous if any strings, such as promised politeness to local authorities, were attached to this aid.

RECORD-BREAKING COMPETITION

I think it was the Minister of Works, Mr. Hugh Molson, who once said that architects were not in favour of competitions. He was, I think, explaining why none had been held for the design of a British embassy somewhere. I hope Mr. Molson's attention will be drawn to the *Ideal Home* magazine's small-house competition (only a step from an embassy competition, after all). The promoters have received 1,523 entries. This is the highest number ever recorded by the R.I.B.A. for an architectural competition in this country. The assessors, Clifford Culpin, Eric Ambrose and Peter Dunham, are going to have a jolly time selecting the 30 prize-winning designs. These will be published in book form later this year and there will also be an

exhibition at the Building Centre. Plans of the 30 will thereafter be made available to builders and the general public. The object of the competition is "to make architect-designed houses generally available in the lower ranges of size and cost".

IMPENDING COMPETITION

The Burgh of Motherwell and Wishaw is about to launch an architectural competition for the design of a new civic centre. The scheme will include council chamber suite, offices and a combined concert hall/ballroom. Prizes will be £3,000, £2,000 and £1,000. There is, however, a snag. The council chamber block appears to have been already designed and the preliminary notice states that the specification for it is to be prepared "in association with the other officials concerned along the lines of the plan submitted to, and considered by, the Town Council some years ago". The resuscitation of old plans and their planting on new architects is the one sure way of botching-up a scheme, and I hope that someone will persuade the Motherwell Town Council to drop this condition. If it is being done for economy reasons it is misguided, for this kind of thing nearly always costs more in the end. Further details of this competition will be published as soon as they are available.

TWO-DIMENSIONAL SCULPTURE

The Royal Society of British Sculptors is today giving a sherry party at which photographs of members' work will be on view. This seems a crazy idea, but I can understand that it might be difficult to transport large works for a one-night stand. If one is looking for a sculptor photographs can help, but they are a very poor substitute for a three-dimensional exhibition.

SMOKE IS YOUR ENEMY

This is the title of a leaflet issued free by the M.o.H.L.G. to local authorities for distribution to the public where smoke-control areas are to be made. The leaflet points out the various disadvantages of smoke, explains the main provisions of the Clean Air Act, 1956, and gives details of its working. It also gives information about the grants that can be obtained towards the cost of grates designed to burn smokeless fuels.

Everyone has a part to play in making our atmosphere fit to breathe. When is your council making a smoke-control area?

THREAT TO NEWTOWN CREEK

It is extraordinary to note with what diabolically unfailing skill the Ministry of Fuel and Power chooses beauty spots for the sites of its atomic power stations. The Isle of Wight is now threatened. That by itself is serious enough, but there are places in the island whose beauty has already been ruined by man's civilizing hand. To be prospecting on the banks of Newtown Creek, on the Solent, between Cowes and Yarmouth, shows the Ministry to be utterly devoid of feeling about the nation's heritage of rapidly dwindling uninhabited places.

Newtown Creek is not served by roads. It has no "amenities", hardly a building can be seen from it. It is unbelievably peaceful and very beautiful. It is now threatened by fifty acres of atomics with monstrous high buildings (architect designed, no doubt), and all the trappings of modern industry. The few hundred yachtsmen who know and love Newtown can expect short-shrift before the Ministry's bulldozer, but they and everyone who is alarmed at the ever-increasing wastage of our countryside will oppose this project with the utmost tenacity.

Southampton Water is already ruined. The Solent must be preserved.

TIMBER

On Monday a luncheon was given by the Timber Development Association so that all could meet, and hear, Mr. Verne Ketchum, director of engineering with Timber Structures Inc., of Portland, Oregon. We were warned that he was an accomplished public speaker and so he was. Though a bit ponderous, as befits a man dealing all his life in the vast trees of the Pacific north-west, Mr. Ketchum had much that was interesting to say about the future of laminated timber structures, and particularly about the scale of their use in the United States. He showed us slides of bridges as big as that still to be built over the Severn, of churches, of "field-houses" (vast gymnasia), airship hangars and lacy domes. His theme was that what steel could do in structure, so could laminated-timber—and beat it on price and delivery times. He denounced urea for gluing, because he had had it delaminate, and recommended casein even where the wood might stand in the open during construction. Mr. Ketchum also informed us that the principal problem of timber engineers in America was not so much to gain wider public or industrial acceptance, but to convince insurance companies and public safety authorities that it was as good a fire-risk as structural steel. We saw a colour film showing a laminated timber beam exposed to a fire about 1,500 deg F for one hour. At the end of the test, its section, when sawn, was shown to be relatively little diminished. Mr. Ketchum said a steel member could not last that time without dangerous distortion.

ABNER

Left to right: Eric Ambrose, Peter Dunham, and Clifford Culpin, the assessors, examining entries in the "Ideal Home" small-house competition

Letters to the Editor

Le Corbusier Exhibition

Sir,—While congratulating you on your presentation of the Le Corbusier Exhibition, it might be as well to make it clear to Mr. Gowan that the exhibition was offered to the R.I.B.A., the Civic Trust, the Arts Council, the Tate Gallery, the V. & A. and even, as a last resort, the Royal Academy. Without the generous offer of Mr. Yerbury, of the Building Centre, your contributor would be reduced to wondering why this important exhibition did not come to London. The need for a large temporary exhibition gallery in the centre of London becomes more evident every day; how about a concerted move on the Hampton site in Trafalgar Square?

Yours, etc.,

THEO CROSBY,

Secretary, Le Corbusier Exhibition.

* * *

Sir,—Of all the drivelaceous, pseudo-cultural verbage that I have ever read—your write-up of this exhibition takes the bun.

However, on the basis "that like attracts like" I suppose that it is excusable.

Even the most cursory inspection of these exhibits shows draughtsmanship of the very poorest type, an absence of three-dimensional thinking, a disregard or ignorance of modern principles of structure, and an understanding of painting that is nothing less than pathetic.

However, from one angle this exhibition is a great success, inasmuch that it will bring a record attendance to the Building Centre, where many of the visitors either on the way in—or on the way out—will see many things well worth looking at.

Yours, etc.,

S. LOWETH.

* * *

Sir,—Following a recent visit to the above, I subsequently read James Gowan's review in your issue of February 11.

Can you spare a little space to enlighten some of us upon the meaning and purpose of these grotesque exhibits?

Your critic writes, *inter alia*, "The paintings of this period, which are abstract compilations of 'unloaded' objects, have the same underlying disciplines and elaborate, architectonicly formal values for future use. As such they have purpose and meaning and are, to me, the most significant."

Quite sincerely, I discern neither purpose nor meaning and no beauty in these primitive displays. I find Mr. Gowan's write-up equally bewildering. With respect I now find myself wondering if it is M. Le Corbusier or myself who has "gone crackers".

Yours, etc.,

F. T. BUSH.

New Products

Sir,—May I express my thanks for the action taken by you in publishing my letter in your issue of February 11.

Your prompt action and the steps taken by you in this matter are greatly appreciated, and it is indeed a pleasure to realize that your excellent journal has the subscriber's interest so much at heart.

Yours, etc.,

G. W. BOWES,

T. P. Bennett & Son.

Architects First and Foremost

Sir,—Following the recent general meeting of the erstwhile Local Government Architects' Society, which endorsed the proposal to limit initial membership to specific "official" groups, I feel that a great opportunity to create a measure of harmony within at least part of the profession has been missed. My own view is that the introduction of another society to promote the welfare of what is now a majority of the R.I.B.A. membership should not be necessary, and that the R.I.B.A. itself should be the sponsoring body. This, it seems, is for various reasons not possible, even though constitutional reforms can apparently be made in other directions.

But if a new society is thought to be necessary it should at least fully represent all architects in salaried employment. Delegates to the meeting from other than local authorities must surely have gone away somewhat fearful for a future where one section is to hold such a dominant position.

The amended constitution of the new association has still to be ratified by a further general meeting, and before this takes place I would like all local government architects to put to themselves this question: "Am I primarily a local government officer, or am I first and foremost an ARCHITECT?" If, as I sincerely hope, the answer is a resounding "YES" to the latter, then the proposed title of "Association of Official Architects" is unrealistic; any distinction between those in official positions and those in private and commercial firms and other bodies not included in the amended constitution being out of the question.

Salaried architects from all fields of employment deserve to have some representation in regard to salaries, conditions of service and other matters and, unless this principle is accepted at the very inception of the new association, I fear that a great deal of disillusionment will be felt by those not included, and will reflect on the relationships within the profession.

It was said at the meeting that the attitude of those in private and commercial firms was not known and could not be taken into account. I can only hope, therefore, that they can make their combined and individual voices heard before the next general meeting takes place. An encouraging response from them, and some new thinking and action by the uncommitted local government members could lead to the question of the new association's title and proposed membership being raised again before final ratification of the constitution, and perhaps averting what threatens to be yet another split within the profession.

Yours, etc.,

REX DEMPSEY.

Building Societies and the Design of Houses

Sir,—Building societies have recently been subject to some criticism from architects and builders on the ground that they are old-fashioned in outlook and over-cautious in lending policy. According to the critics this may have the effect of discouraging new developments in house design. Let us examine the criticism from the building societies' point of view.

Building societies may be considered to be trustees of the savings and investments placed with them by the public and, indeed, when the Government's proposed legislation on house purchase reaches the statute book, deposits with approved societies will be granted trustee status. What is the main function of a trustee? Surely it is to administer the funds at his disposal with complete security; it is just this which the building societies strive to do. They are not conducted for profit; they have no equity shareholders and speculation is no part of their function.

When the manager of a building society contemplates the making of a mortgage loan, he must have in his mind the possibility, albeit remote, of having to dispose of

the property in the open market at some future date. As both a matter of law and of prudent practice, he has to rely upon the society's surveyor to advise him on the property's maintaining market value and on how the re-sale price may be affected by any unusual or experimental features of design or construction.

Now architects do frequently seek to create new designs and to import original ideas, but public taste sometimes has a way of lagging behind and it is public taste which largely controls the value of the building society's security. Further, the new features may be more costly than their traditional counterparts and it has to be remembered that the home-buying public is becoming increasingly "price-conscious".

In general, the duty of the building society is to assist members of the public to buy the houses of their choice; it does not normally include that of influencing them in their choice save where the property is unsound in construction and for that reason, or any other similar reason, one which the borrower should not buy. In short, the lending policy of the building society must proceed at the same pace as public taste and public demand. What are intended by architects to be improvements in design do not necessarily succeed in appealing to the buying public. Before the last war, for example, a good many flat-roofed houses were being built, but the public never really took to them and very few new ones are to be seen today.

It is just this knowledge that new design is partly experimental that makes the building societies cautious. Even so, building societies never stand in the way of good new design provided it has the ready approbation of the public concerned. The Building Societies' Association is represented, for instance, on the Central Panels Committee and, in 1956, was prepared to give financial support to a scheme for improving the design of small houses which the R.I.B.A. was then seeking to organize. But it cannot be emphasized too strongly that the first duty of building societies is to afford proper security for the money entrusted to them by over 4,000,000 investors and that for this (and other) reasons they are always more likely to march with the public taste in home design than to attempt to lead it.

ALEXANDER MEIKLE,
Chairman of the Council,
The Building Societies' Association.

Motor Showrooms at Staines

Sir,—We were very interested to read the report on the new motor showrooms at Staines for Messrs. E. J. Baker & Co. (Dorking) Ltd., which appeared in your issue dated February 4, 1959, but were surprised to learn that the reduction of reflections in the building was achieved mainly by generous roof lighting through acrylic sheets.

In actual fact the roof lights in question were not acrylic type but were Galt glass fibre reinforced corrugated sheets, which were supplied by this company to Messrs. Geo. Jarvis & Co. Ltd., on instructions from Messrs. Carter-Horseley (Engineers) Ltd., of Croydon.

In all a total of 100 roof lights curved to various radii were used on this contract, and on the drawings in our possession they are quite clearly identified as Galt Glass.

Yours, etc.,
G. F. WATERS,
Allan Blunn Ltd.

From Le Corbusier Exhibition which continues at the Building Centre until March 6

NEWS

War Graves Commission Appointment

The Imperial War Graves Commission have approved the appointment of Mr. H. D. Morgan, M.SC.(ENG.), M.I.C.E., as their honorary consulting engineer in succession to the late Sir William Halcrow, who was the Commission's honorary consulting engineer from 1944 until his death on October 31, 1958. Mr. H. D. Morgan is senior partner of the firm of Sir William Halcrow & Partners.

Electricity—As Others See Us

The current issue (February 23, 1959) of the magazine *Time* has a dig at our muddled system of electricity supply. Under the title "Light in Yorkshire" the article reads as follows:

"Britain has never fully come to grips with the discovery of electricity. In all but the newest buildings, electrical equipment and wiring run to as many different types and sizes as the fanciful British mind could devize. There are fused plugs, and unfused plugs, plugs with two prongs and plugs with three prongs, with round prongs and square prongs. There are plugs the size of kumquats, walnuts, ping-pong balls and lemons. Some appliances have three-strand wire, some two. The voltage may be either 210, 220 or 240—or in a few areas, 110. When an American visitor tries to use a transformer to make a 110 voltage U.S. appliance work in a 220 volt British house, he finds he has been cunningly outwitted: Britain uses 50 cycle current instead of the 60 cycle found in the U.S. This causes 60 cycle U.S. washers and driers to wash and dry feebly, produces a querulous drawl in 60 cycle phonographs and tape recorders.

"Sometimes the British even outwit themselves. Last month, electricians of the Yorkshire Electricity Board set about installing a new transformer for the small, 30-house village of Carlecotes (pop. 105). When the current was turned on, it lasted exactly 50 seconds. In that time, 72 light bulbs burst in their sockets. Three village street lamps blazed like searchlights and then burned out. TV and radio sets smoked like burning leaves. Electric motors for milking machines and a bottling plant sizzled. Water heaters exploded. The fireworks over, Carlecotes was plunged back into darkness.

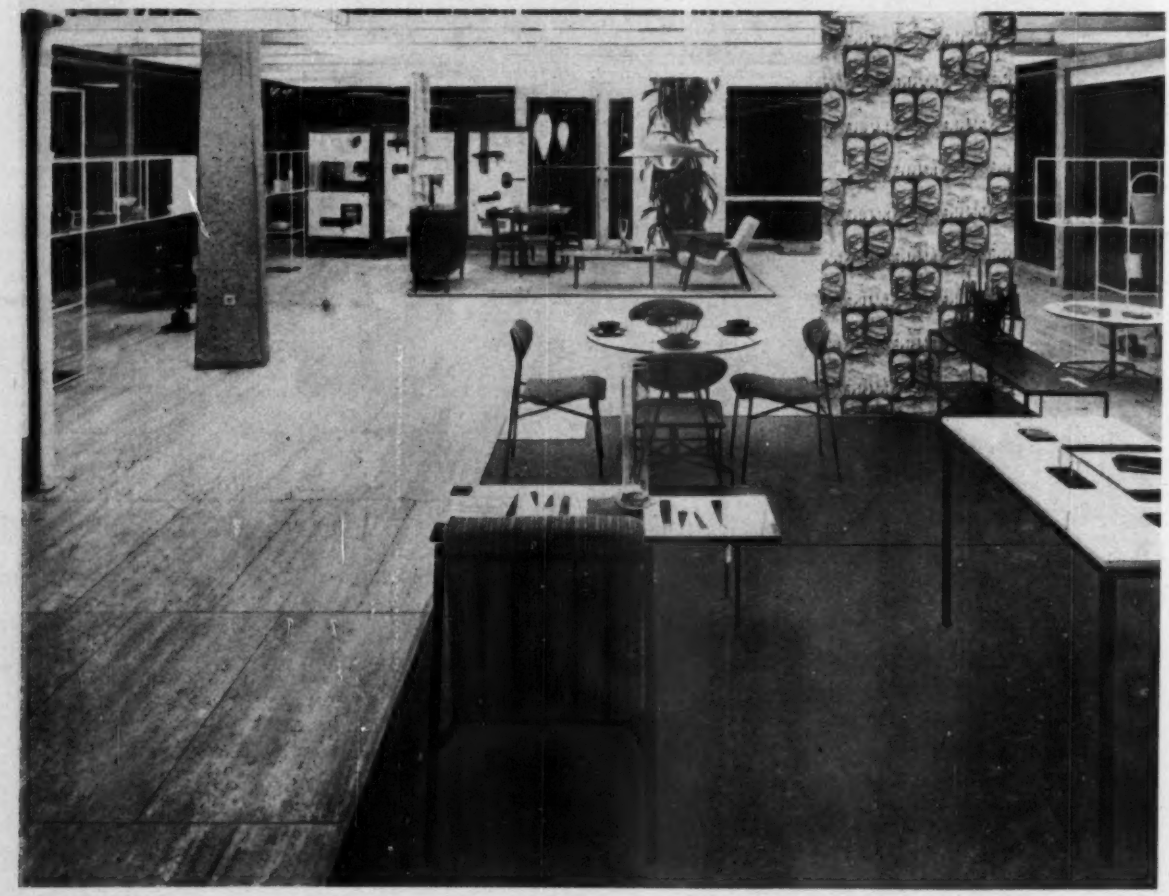
"What has happened? Explained an embarrassed Electricity Board technician: 'There was a break in the neutral connection in the three-phase supply that became unbalanced.' None the wiser, the citizens of Carlecotes presented the board with the biggest electrical bill in the village's history. 'We'll repair or replace everything damaged,' promised a harassed official."—*Copyright: Time Inc., 1959.*

Mid-summer Ball

Encouraged by the growing success of their winter ball (last year tickets were sold out six weeks before the day), the Ball Committee of the A.B.S. has decided to hold a summer ball in aid of society funds on Friday, June 19. This will take place at the R.I.B.A., Portland Place, and thanks to the generosity of the council in placing the building at the society's disposal, they are able to offer an evening's non-stop dancing to two bands, with running buffet supper, for the modest price of 25s. There will also be a grand tombola and several bars.

It is hoped that this addition to the architects' social calendar will prove as popular as the winter ball, especially to younger members of the profession. Application forms for tickets will be available early in April from the hon. organizing secretary, A.B.S., 66 Portland Place, W.1.

The Council of Industrial Design's first retail promotion on the Continent has been launched with NV Magazijn de Bijenkorf, a Dutch group of department stores. Three exhibitions were opened simultaneously in Rotterdam, Amsterdam and The Hague on February 13 and will run for about three weeks. Below, view of the display at the Rotterdam store. (Architect, Marcel Breuer)



Ideal Home Exhibition, 1959

The *Daily Mail* Ideal Home Exhibition, of 1959, will open at Olympia on March 3 and close at 10 p.m. on Easter Monday, March 30. It will not be open on Good Friday, March 27.

The exhibition will include the British Pavilion, in addition to all its usual features, which was seen by nearly 5,000,000 people at the Brussels Fair.

Landing Stations for Helicopters

The town planning committee reported to the L.C.C. last week on the site of these landing grounds. The committee said: We have considered several applications for planning permission for helicopter landing stations in the county. In one such case (at York Road, Battersea) the Minister of Housing and Local Government, who had called in the application, gave permission for the station for a limited period. Our chairman, in reply to a question on December 16, 1958 (p. 797), indicated that, while it would be possible to earmark sites for helicopter ports in London, the choice would perforce be based on the performance of existing types of machine; that, to be effective, planning must take account of likely future developments; and that technical investigations had not reached a stage at which a reliable forecast of needs could be made. We now understand, however, that an experimental helicopter especially designed for travel between cities will soon be in production and we have felt it necessary to outline some principles for the consideration of applications as a basis for consultations with the various bodies most concerned.

So far as the immediate future is concerned, the first question to be asked is whether there should be a few landing grounds at strategic points or a large number. A definite answer to this question must await technical developments but we consider that the best course to follow now would be to indicate in the first review of the Development Plan a few suggested locations and to leave over the question of any demands that future technical developments may make to be dealt with at subsequent reviews of the Plan. The selection of specific sites must be considered from two different points of view, the convenience of the air traveller and the effect on the city dweller. From both points of view, locations on the edge of central London would appear to be the best. First, the perimeter of the central area is roughly defined by the main-line railway termini, which are for the most part interconnected by underground railway, and the distances from hotels and business houses are short; moreover, such points would be easily accessible from the suburbs or beyond. Secondly, the edge of central London would more readily afford suitable sites with parking and service facilities than would central London itself, where land costs are higher and traffic congested. Thirdly, on the perimeter of the central area there are sites which are largely non-residential in character, such as marshalling yards, docks and industrial and commercial undertakings, so that fewer residents would be affected by noise.

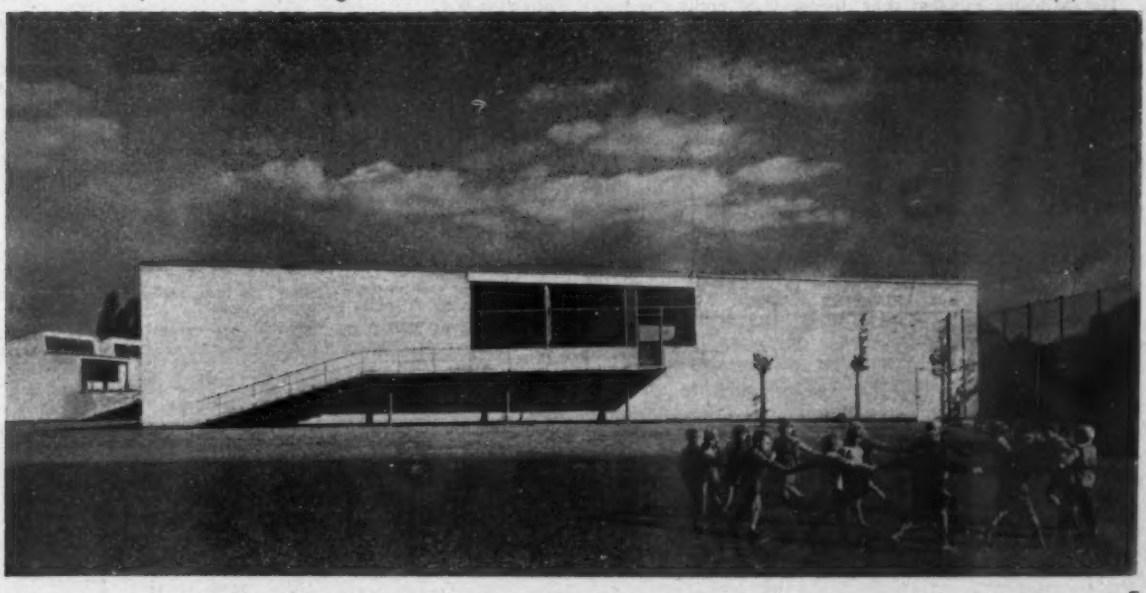
With these criteria in mind we are of opinion that the most suitable locations for a helicopter landing ground would be—near and to the south of Victoria station, preferably on the south bank of the Thames; the area to the north of King's Cross and St. Pancras stations; and the area east of the Tower of London. It should be appreciated that these are suggested locations and not actual sites. We have decided that consultations shall be held on the matter with the Metropolitan Boroughs' Standing Joint Committee, the Corporation of the City of London, the Ministry of Housing and Local Government, the Ministry of Transport and Civil Aviation, the airline companies, the British Transport Commission, the Helicopter Association of Great Britain and other interested bodies. We will report again when these consultations have been completed. We have also decided that evidence on these lines shall be included in the statement to be made on the Council's behalf at an appeal hearing arranged by the Minister of Housing and Local Government relating to the application for approval of a helicopter landing site in Nine Elms Lane, Battersea.

Training Courses in Concrete Work

The Cement and Concrete Association have announced their programme of training courses for 1959. These are designed to help engineers and supervisors to keep abreast of recent developments in design and construction techniques. Two courses for architects are included from June 29 to July 3, and July 6-10. At these courses well-known architects are invited to speak on subjects of special interest and leading British engineers are invited to speak on more specialized aspects of concrete construction.

The courses will be held at the association's new training centre at Wexham Springs, near Slough, Buckinghamshire. Living accommodation consists of single bedrooms, a canteen, a lounge and a recreation room. The lectures are given mainly by members of the technical and research

The Arne Jacobsen gymnasia on the west side of Munkegaards School, near Copenhagen. This school is included in an exhibition of his work now being shown at the R.I.B.A. until March 25. It was illustrated in A. & B.N 4/4/57



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NEWS CONTINUED

staff of the association, but experts from outside also give talks on their own subjects.

The association's research station provides special facilities for the laboratory work and the practical demonstrations. The practical work includes the testing of materials, trial mixes, the making and testing of full-scale structural members, demonstrations of construction techniques using modern plant, and methods for handling and placing concrete and making prestressed concrete by all the main systems of prestressing in general use in this country. Participants can gain experience in working with each process. Demonstrations of road construction are given, using both hand methods and a complete train of mechanical plant for fully mechanized concrete road construction. This includes spreading and finishing plant, a vibrating joint cutter and a mobile concrete saw. A large number of pre-cast concrete facing slabs are on view, showing the variety of surface finishes which can be obtained with exposed aggregates and profiled slabs.

The fee for the lectures and demonstrations is £5 per person on all courses, payable on *confirmation of a reservation* on one of the courses. Meal and accommodation charges vary from £2 15s to £5 5s, depending on the facilities required. Full details are available from the association at 52 Grosvenor Gardens, London, S.W.1. Early application is advised.

Law and Administration

Requisitioned Houses

The Minister of Housing and Local Government recently reviewed the position in regard to houses under requisition. Referring to the *Requisitioned Houses and Housing (Amendment) Act, 1955*, he said:

"When the Act became law, there were nearly 90,000 dwellings under requisition. By the action of local authorities, that number has been reduced to 28,000. There is a little over a year in which those remaining 28,000 must be derequisitioned. It must be done. I have no power to extend that final date of March 31, 1960. Indeed I am at this moment considering issuing a circular to local authorities which still have dwellings under requisition, urging them to review their programmes afresh and to make absolutely certain that they are taking the necessary action so that they will have the whole of the derequisitioning process completed by that date."

The Minister recalled that one way of ending requisition was to lease or buy the property affected, and that Section II of the Act provides for the payment of financial grants to this end. Commenting on this he continued:

"There has been a certain amount of leasing, but not much. I wish more local authorities had thoroughly studied the possibilities of leasing. Most of it has been done by purchase."

Dealing with certain difficulties which concern the payment of purchase grants the Minister remarked:

"So long as it is quite clear that there is a genuine connection between the movement of the families a Section II grant will be paid. . . . There will be no difficulty if [a] Council arranges a direct exchange with an existing council tenant, the existing council tenant going into the newly purchased property and the licensee family going into that or another vacated dwelling."

The Minister said that he was prepared to go even further and to consider a grant:

"Where a local authority puts a family from its own waiting list into a property which has been purchased under Section II, so long as it rehouses the licensee family in one of its council houses or flats. The two moves must occur within a reasonable time. There must be some link, or it would be impossible to establish the relationship."

The Minister concluded by warning that there was one *essential condition* in both the cases mentioned:

"The Council must be buying a property which is not bigger or more costly than it really needs to rehouse the licensee family. We could not contemplate paying a Section II grant on a four-bedroom house when the licensees concerned were a man and wife who were moving out of a derequisitioned house."

Coming Events

The Architectural Association

February 23 at 7 p.m. Ordinary General Meeting and Dinner. "Prague—Its Architectural Continuity and Unique Townscape", by Walter G. Bor, A.R.I.B.A., A.M.T.P.I. At 34/36 Bedford Square, London, W.C.1.

The Incorporated Association of Architects and Surveyors

February 25 at 7.30 p.m. "The History of Quantity Surveying", by Mr. C. R. King, F.R.I.C.S., F.I.A.S. At the White Hart Hotel, Reading.

Royal Institute of British Architects

February 26 to March 25. Monday to Friday, 10 a.m. to 7 p.m.; Saturday, 10 a.m. to 5 p.m. Exhibition of the work of Professor Arne Jacobsen. At 66 Portland Place, W.1.

The Town Planning Institute (Scottish Branch)

February 26 at 7 p.m. "Films as an Aid to Planning", by R. Brown, A.R.I.B.A., and I. Samuels, A.R.I.B.A. At the Bath Hotel, Glasgow.

Cement and Concrete Association

February 26 at 6 p.m. "A Survey of Recent Developments in Reinforced Concrete", by A. W. Hill, B.SC.(ENG.), M.I.C.E., M.I.STRUCT.E. At the New School of Engineering, University of Bristol, Bristol.

March 2 at 6.45 p.m. "The Architectural Expression of Structural Concrete", by W. A. Gibbon, M.A., A.R.I.B.A. At the College of Technology, Sackville Street, Manchester.

The Design Centre

March 2 to April 11. Room setting with prototype pieces of furniture designed by Ward & Austin, B.ARCH., A.R.I.B.A., F.S.I.A. At 28 Haymarket, S.W.1.

Royal Institution of Chartered Surveyors

March 2 at 5.45 p.m. Unveiling of portrait of Sir Alexander Killick by the president, and "Implementing the Franks Report", by Sir Sydney Littlewood. At 12 Great George Street, S.W.1.

Bristol Building Centre

March 3 at 1.30 p.m. Films: "Alumina Jamaica" and "High Speed Aluminium Welding", by Aluminium Ltd. At Stonebridge House, Colston Avenue, Bristol, 1.

The Housing Centre Trust

March 3 at 6 p.m. "A Redevelopment Plan for Fulham", discussion with Professor Sir William Holford in the chair. At 13 Suffolk Street, Haymarket, S.W.1.

Town Planning Institute

March 4 at 6 p.m. Annual dinner at the Savoy.

Royal Society of Arts

March 4 at 2.30 p.m. "The Future of the Nash Terraces", by Richard H. Davies, A.A.DIP., F.R.I.B.A. At John Adam Street, W.C.2.

Prestressed Concrete Development Group

March 4 at 5.30 p.m. "How Can the Advantages of Prestressed Concrete Best be Utilized?", by Professor H. Rusch. Institution of Technology, Munich. At Royal Commonwealth Society, Craven Street Entrance, W.C.2.

THE ARCHITECT and Building News,
25 February 1959

North-east corner of the welfare building. Timber curtain-walling is used for its resistance to atmospheric pollution. Below, perspective of the final scheme

WELFARE BUILDING, MANCHESTER

For Ashburton Chemical Works Limited

Architects: SCHERRER AND HICKS
Assistant in charge: J. B. GEE
Consultants:
Structural Steelwork: G. T. LAYTON AND PARTNERS
Reinforced Concrete: P. E. CROSS AND PARTNERS
Electrical: ASHBURTON CHEMICAL WORKS LIMITED
Heating and Ventilating: JOHN PORGES
Quantity Surveyors: RIDER HUNT AND PARTNERS

THIS new welfare building for Ashburton Chemical Works Ltd., at Trafford Park, Manchester, a manufacturing company of the Geigy group in England, will serve a large group of buildings consisting of laboratories and administration offices, which are due for completion in July, 1959.

As the company felt the pressing need for better welfare facilities it was decided that the welfare building should be given priority and opened at the earliest possible date. After tenders for this building had been sought and received, a contract was placed with J. Gerrard & Sons Ltd. in the sum of £160,010 and the contractors commenced work on the site in July, 1956. The contract has extended over a period of 22 months and the building was handed over to the company by the contractors in May, 1958.

A contract for the laboratories and administration building was let to the same contractors in April, 1957, in the sum of £410,029 and work is currently proceeding on these two buildings.

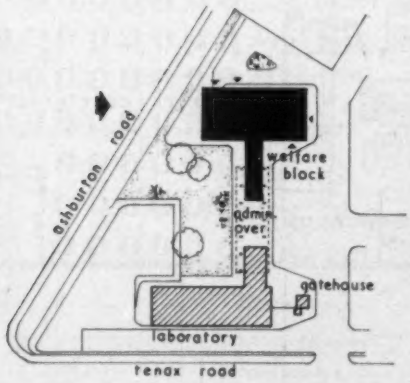
Siting

The site consists of 2¼ acres lying at the junction of Ashburton Road and Tenax Road in an area which is already extensively developed for the manufacture of chemicals. The welfare building was placed at the west side of the site to afford close relationship with the plant. The administration wing runs at right angles to this as a five-storey building raised over a *porte cochère*, permitting visual link between the service road entrance area, and open gardens planned at the southern end of the site. The laboratory wing is a five-storey building at the east end of the site. The entrance to the group of buildings will be from a new gate to be formed on Tenax Road.

Accommodation

The welfare building is designed in the form of a rectangle consisting of a basement, ground, first and second floors with the ventilation plant room in a penthouse.

Basement: this contains the women's locker rooms, ancillary lavatories and statutory accommodation for 88 women. The major portion of this basement is reserved mainly for men's future locker and toilet accommodation and also contains the



Staff cafeteria, at second floor

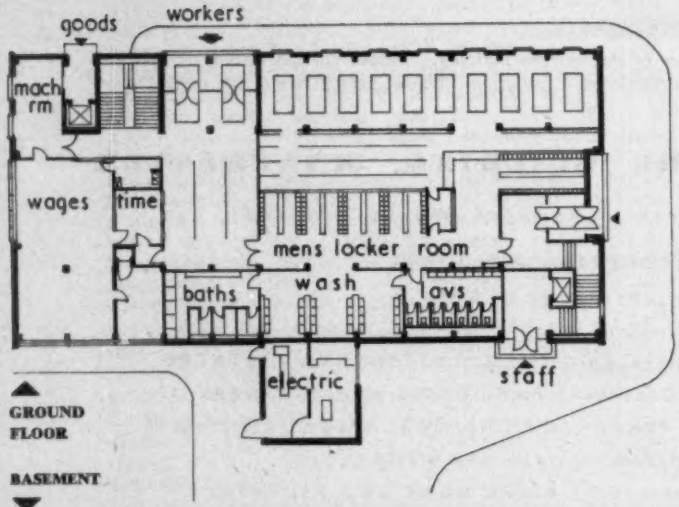
Staff restaurant, at second floor

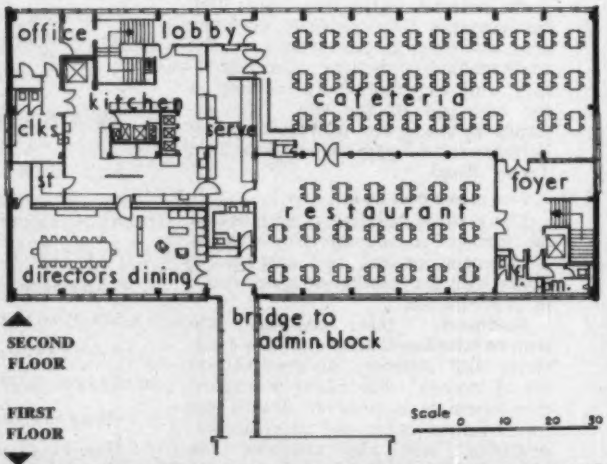
calorifier room and the battery room.

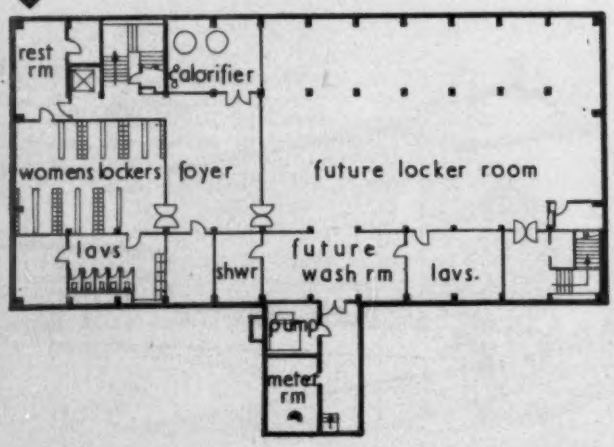
Ground floor: the workers' entrance and time clocks are placed at this level with the pay-out office, wages office and machine room immediately adjoining on the south side. To the north side of the time clocks lies the principal men's locker room with provision for 440 men. This is arranged so that the men's clothes may be changed completely, and facilities are also provided for storing soiled working clothes. Toilet accommodation is adjacent and baths and showers have also been planned in this area.

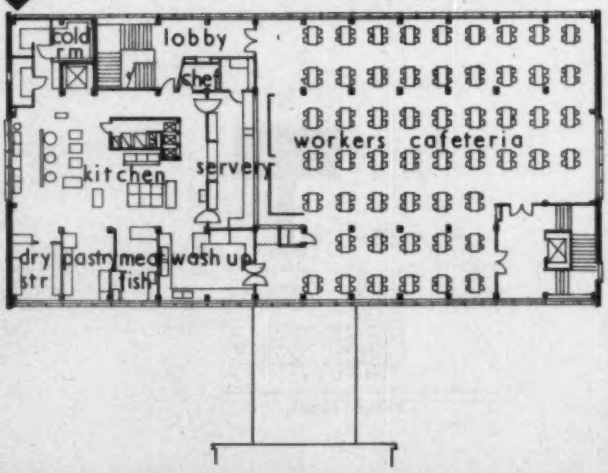
First floor: this contains the workers' cafeteria for 800 employees in two sittings; a servery counter has been planned at the south end, behind which lies the main kitchen with preparation rooms, dry store, vegetable store, wash-up, still-room and cold-room.

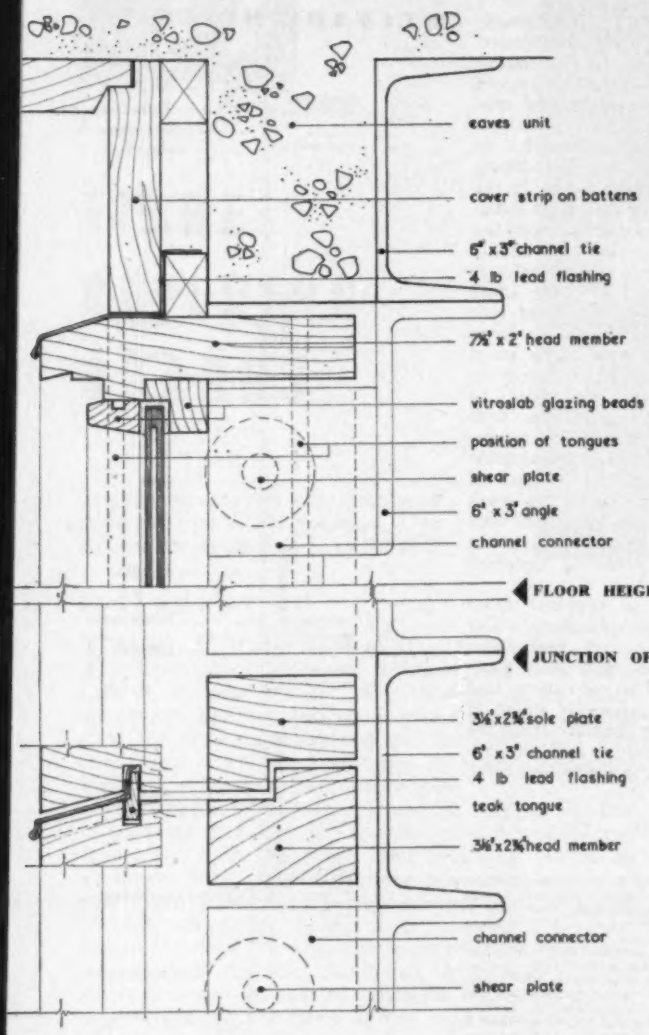
Second floor: this consists of a staff restaurant for 160 employees in two sittings and a staff cafeteria for 256 employees, also in two sittings, thereby giving the staff the choice of waitress service or self service. A common servery is planned at the

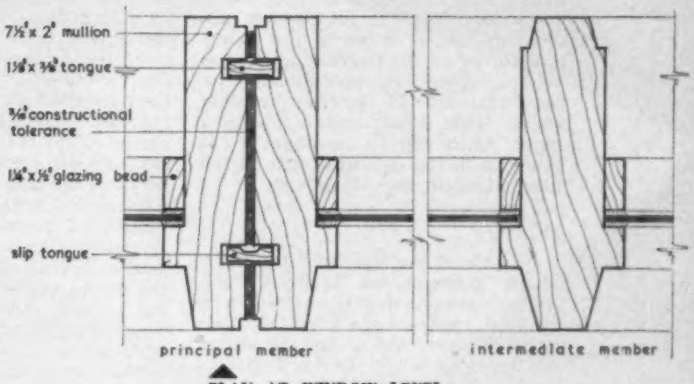








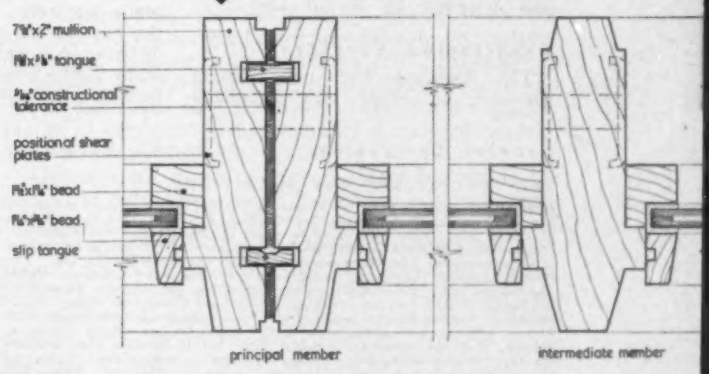


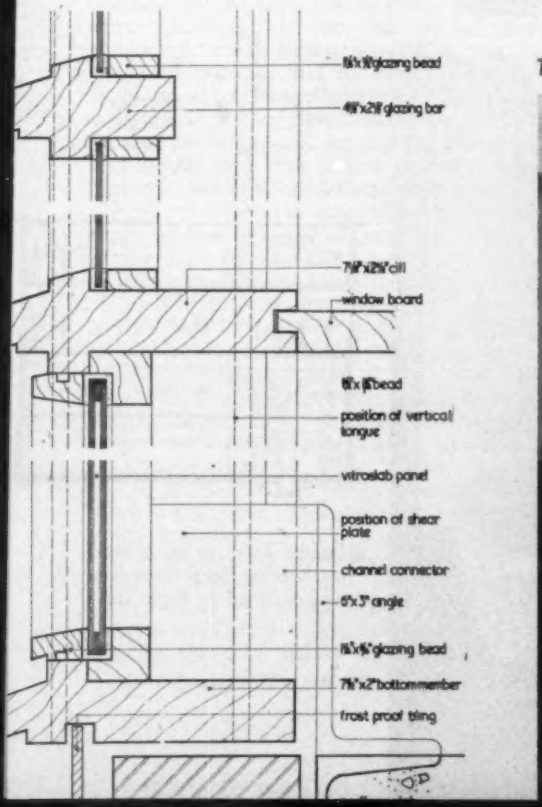


PLAN AT WINDOW LEVEL

TIMBER CURTAIN WALL
SCALE: 1/4 FULL SIZE

PLAN AT SPANDRIL LEVEL





The directors' dining room

south end of these rooms and is connected with the main kitchen below by service lifts. It also serves the directors' dining room at the south-east corner of the building which has been planned to accommodate a maximum of 18 people including guests. This dining room adjoins a foyer which will be connected by a bridge with the directors' suite in the new administration building.

Design

Because of the high level of atmospheric pollution in Trafford Park, timber curtain walling, glazed with spandril panels of Vitroslab, was decided upon, and a unit of design was evolved which forms a distinctive feature of the exterior of the building. The contractors can easily produce large numbers of such units in their joinery shops and this unit will be used over the whole group of buildings in order to reduce cost. The use of metal externally has been strictly avoided, the only exception being the steel runway for window cleaning.

Furniture in the cafeterias, restaurant, and directors' dining room was designed by Robin Day.

Ventilation Services

The building has no opening windows, in order that circulated air should be free from atmospheric pollution as far as possible. Filtered air is supplied from the ventilation plant room on the roof. The system comprises a plenum and extract ventilation for which separate plant has been installed for the cloak-rooms on the two lower floors and the dining rooms on the two upper floors. In the cloak-rooms, fresh air is mainly introduced in the clean clothes section, the dirty clothes section being kept under-pressurized in order to prevent odours spreading elsewhere. For the same reason, heated air is introduced into the dining rooms and extracted from the kitchen and servery. The main fans will run at different speeds in summer and winter in order to achieve comfortable conditions with the prevailing outside temperature. All air introduced from the outside will pass an automatically cleaned oil filter and heater batteries. The ducts to various rooms are provided with booster heaters connected with a hot water system to maintain constant temperatures.

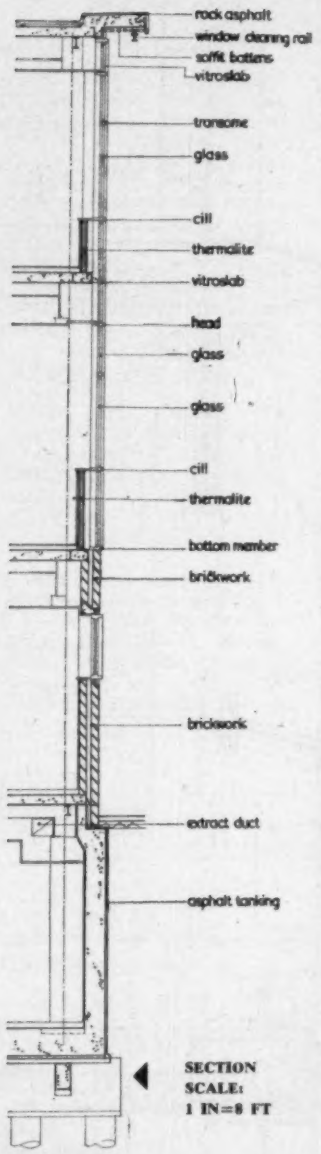
The hot water is supplied from two 600gall storage calorifiers. The heating, ventilating and hot water services are equipped with fully automatic controls. The calorifiers and the heaters are supplied by steam at 30 lb/sq in working pressure from the main works boilerhouse and all condensate is returned to the boilerhouse.

General Contractors: J. GERRARD & SONS LTD.

Sub-contractors and suppliers:

Asphalt Tanking and Roofing: The Limmer & Trinidad Lake Asphalte Co. Ltd. *Cement Glaze:* Modern Surfaces Ltd. *Cork Insulation:* Armstrong Cork Co. Ltd. *Electrical:* W. J. Furze & Co. Ltd.; (*Special Fittings*): George Forrest & Son (1950) Ltd. *Furniture:* Hille of London Ltd. *Fire Protection:* Minimax Ltd. *Floor Finishes:* (*Granwood*): Granwood Flooring Co. Ltd.; (*Quarry Tile*): Hulme & Potts Ltd.; (*Terrazzo*): J. & H. Patteson Ltd. *Incinerators:* The Wandsworth Electrical Manufacturing Co. Ltd. *Ironmongery:* Walter Cassey Ltd. *Kitchen Equipment:* Radiation Group Sales Ltd. *Mechanical Equipment:* (*Heating and Ventilating*): Mancuna Engineering Ltd.; (*Pipework*): H. Cheetham & Co. Ltd.; (*Lifts*): Etchells, Congdon & Muir Ltd.; (*Sewage Lift Pump*): Tuke & Bell Ltd. *Painting:* Arthur Lord & Sons Ltd. *Piling:* The Franki Compressed Pile Co. Ltd. *Plastering:* Pollock Bros. (London) Ltd. *Pre-cast Concrete Floor Beams:* Girlings Ferro-Concrete Co. Ltd. *Protective Grilles:* Rely-a-Bell Burglar & Fire Alarm Co. Ltd. *Roads:* Tarpaving & Tarmacadam Ltd. *Sanitary Fittings:* Morrison Ingram Ltd. *Shutter Gate:* Bolton Gate Co. Ltd. *Structural Steelwork:* Edward Wood & Co. Ltd. *Vitroslab Wall Panels:* Plyglass Ltd. *Wall Finishes:* (*Tiling*): Carter & Co. (London) Ltd.; (*Decorative Tiling*): Pilkington Bros. Ltd.; (*Mosaics*): Langley (London) Ltd. *Window Cleaning Rail:* Palmers Travelling Cradle & Scaffolding Co. Ltd.

WELFARE BUILDING



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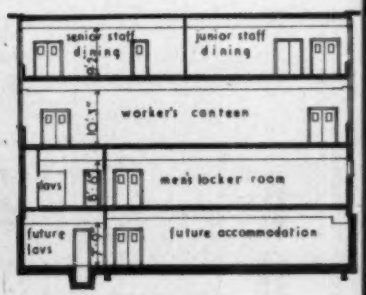
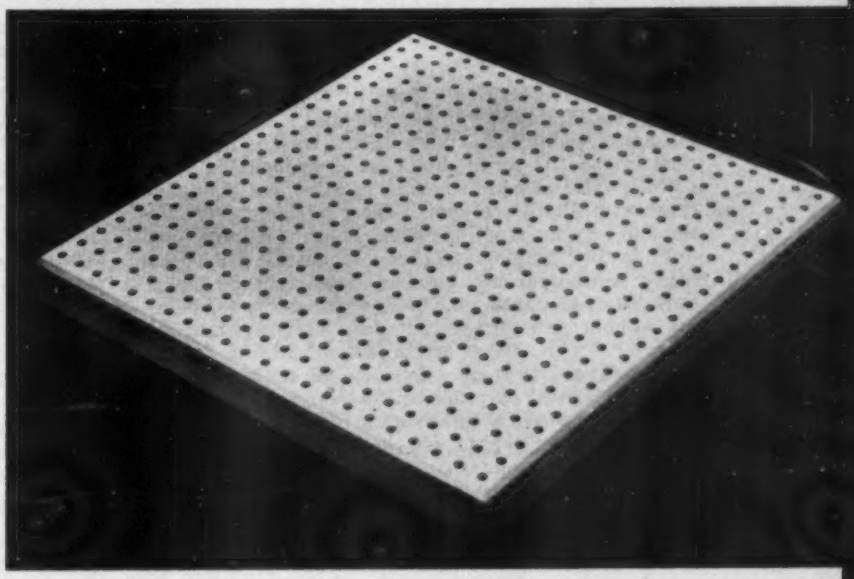


Lounge foyer to the directors' dining room. Furniture was designed by Robin Day

FIBRE BUILDING BOARDS



This supplement deals with products of firms who are FIDOR members. The building boards are covered by B.S.1142

Introduction

FIBRE BUILDING BOARDS have long since passed the stage where their use had to be justified or excused. From being thought of as cheap substitutes which would in all probability be satisfactory, the architect today can use these materials with confidence born of knowledge of their distinctive qualities and appropriate treatments.

Hardboards, when first introduced, suffered the fate of so many new materials in being used hopefully and ignorantly, with the result that panelling bulged as expansion took place in framing permitting no movement, and floor-level casings, swelled and laminated through saturation during floor washing. This was before the need for conditioning was fully appreciated. Consequently the later claim that hardboards resistant to water were available was received with some doubt, only reluctantly overcome as test results following immersion in sea water were given publicity. An even more searching test was the use of fibreboards for shuttering, which simultaneously proved the value of tempered qualities and the futility of using the softer types, of which many hundreds of feet must have been squandered. There then became the two camps, those for and those against, yet arguing from quite different standpoints and even about different materials, both tempered hardboards and insulation boards being called fibreboards. Even the users of tempered hardboard had their failures through ignoring the need to allow for expansion.

Insulation boards met with a better reception, coinciding with a phase in housing when low cost, stained joinery and rusticity were much sought after. The reduction in reverberation in rooms may have been an unappreciated benefit at the time, but was self-evident when plastered walls and ceilings became customary again. The thermal benefits were acknowledged but not so strongly as to demand continuance as against plastered walls, for as fashions changed so did the practice of building cavity, as distinct from solid, walls grow, thus reducing the difference in the heat transmittance of the two kinds of walls.

The shortage of wood during the 1939-45 war, the post-war building studies and the housing manuals combined to renew the demand for insulation board and for hardboard. Conscientious architects strove to insulate the roof spaces of houses by using insulation board on the rafters although the cost meant savings elsewhere. When compelled by economic facts and appreciation that warm roof spaces were not essential, they continued in many cases to use insulation board on upper storey ceilings, either distempered or plastered. But plastering on insulation board was not an invariable success, so the manufacturers quickly produced literature giving virtually a code of practice to forestall misuse.

Although the range of fibre building boards on the market is very large, there has grown with it a very considerable understanding of each kind in a very wide range of uses. Manufacturers and merchants have formed the Fibre Building Board Development Organization Ltd., with offices at Stafford House, Norfolk Street, Strand, London, W.C.2 (telephone: Covent Garden 3008), whose technical advisory service is available for all users. There is also B.S. 1142:1953 to control quality, practically the whole Standard being devoted to tests.

Study of the schedules shows the widening of choice of material and finish. As an instance, one was once torn between using a thin hardboard for a panel of given size which appeared to be too great for its thickness, or using a medium hardboard which, although thicker and consequently stiffer, lacked the hard surface of the former to take hard wear and tear. Now, however, hardboards are available from 2mm to ⅛in. Surface finish used to be only the natural pressed sheet, but now there are primed sheets, and those with enamelled, lacquered, plastics and wood veneered surfaces. It is probably only a matter of time before the bulk of sheets not sold with finished surfaces will at least be primed ready for painting. This has so many advantages that it should be encouraged by the trade, thus making the natural-finish board the exception to the general rule. Paint- or plastics-finished hardboards used as perforated sheets to support sound absorbents would appear to have special merit in that they obviate entirely the risk of reduced efficiency through paint application by brush or spray clogging the perforations. Both the enamelled or lacquer-finished and plastics-finished sheets have greatly simplified and cheapened the provision of steam-proof and washable surfaces in kitchens and bathrooms.

There is, of course, one drawback to the use of

Picture: Example of a new linen finish sound absorbing tile, measuring, in this instance, 12in sq by 3/16in thick

FIBRE BUILDING BOARDS

self-finished sheets, and that is the restriction on change of decorative colour schemes. None of the makers of such boards offers sheets finished in all the tints in the 101 range, but even if one did he could scarcely offer in addition matt, eggshell and high-gloss finishes in all the colours. There will certainly continue to be a demand for sheets ready for painting, and until factory priming is general it may be noted that many hardboards are bitumen bonded or oil-sealed, both materials causing doubt as to suitability for painting without elaborate precautions. This is groundless, however, for the sheets are in fact suitable for decoration but need priming. In fact, all natural-finished fibreboards must be primed before decoration to avoid excessive absorption in the case of the softer boards and to equalize the suction in the case of all hardboards. The primers to be used are the customary coats, i.e., oil or aluminium under oil and thinned emulsion under emulsion, or petrifying liquid under distemper.

The conditions in which fibreboard is used vary greatly as to humidity, and there is occasionally the presumption that hardboard will not be affected by high humidity. Appendix G in B.S. 1142 gives figures for increase in length of test pieces of insulating, medium and hardboard, the latter material lengthening as much as 0·32 per cent in a rise from 33 to 90 per cent relative humidity. Laminated fibreboard lengthened 1·07 per cent. Increases of this order are quite enough to cause buckling of long panels or raised butt joints and so conditioning in accordance with manufacturers' instructions and measures to control movement are desirable. Fixing by "lost-head" nails alone does not give sufficient restraint, but these in conjunction with gluing to the battens can be quite satisfactory.

Where flush surfaces are not necessary, extruded plastics or aluminium fixing and cover strips can be used which allow space for movement while holding the sheets firmly. Movement of insulating board as given in the same appendix is only slightly more than for hardboard.

Another development of recent years has been improvement in the qualities of fire resistance and reduction of spread of flame, particularly with regard to insulation boards. Fire resistance has been provided in some cases by impregnation and spread-of-flame by impregnation, coating or surfacing with non-flammable material, the standards of protection being given in B.S. 1142 in Part 2 ,which takes account of one or both sides of the board. Surface treatment may incidentally provide a decorated finish.

The Fibre Building Board Development Organization Ltd. (FIDOR) have a number of publications dealing with all aspects of use and treatment of all types and qualities of fibreboard which are available free of charge to applicants.

A. A. MACFARLANE.

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Nailing

When the board is nailed, as opposed to bonding with an adhesive, rust-resisting nails should always be used (that is, galvanized, sherardized, or cadmium-coated). They should be round steel wire nails with a flat, cleanly undercut head. For hardboard use a 17 gauge nail, ¾in or 1in in length; for ½in fibre insulating board, 16 gauge and 1¼in or 1½in in length. In circumstances where the nail heads are to be concealed—covered, for example, by a skim coat of plaster—ordinary clout nails are satisfactory. At the other extreme, where special attention is to be paid to appearance (particularly on surfaced board which will not be painted after fixing), it is advisable to use lost-head panel pins. These should be driven home by a punch to avoid damaging the surface of the board with the hammer. Nail holes should be filled in with proprietary fillers or a mixture of glue-size and whiting tinted to the desired colour.

Nails should always be driven straight through fibre building board at right angles, not "dovetailed". Dovetailing runs the risk of bent nails and of hammer-damage to the board.

Boards should be nailed to intermediate joists first, with nailing starting at the centre of the board and working outwards. Edges and ends should be nailed last. This ensures that the board is progressively "spread". Nails can be at 6in to 8in on intermediates and at 4in centres on edges. Nails at edges should be paired, not staggered, and should be ¾in in from the edge of the board.

Fixing by Adhesives

All types of fibreboard can be fixed direct to plaster or similar solid surfaces with adhesives. This type of fixing can also be used on joists or battens as an alternative to nailing. It is important that the fixing grounds should be smooth, firm and reasonably true.

Many proprietary adhesives of the impact type have been developed for use with fibre building boards, and they require no strutting or pinning during setting time. The manufacturers' instructions should always be followed. Fixing by adhesives is particularly useful with some of the decorative surfaced boards if you want to avoid using cover strips or other means of concealing nail heads. However, many designs of cover strips are available in extruded metal, plastics, timber and fibre building board itself. They are generally available through the normal channels of the board trade.

Metal Fixing

A number of proprietary lightweight metal fixing systems have been developed for use with fibre building boards. These were originally devised to provide a means of lining steel frame structures with fibre building boards where it was not possible to provide a wooden nailing base. Much development has taken place in this field and it is now possible to use metal fixing systems of this type for almost any variety of steel or timber structure.

The systems may be of the "visible" or "concealed" type. Metal fixing is adaptable for both under purlin and over purlin lining and can be used for the thermal insulation of existing buildings as well as incorporated in new construction.

Acoustic fibreboard in tile form is frequently fixed and supported by this method, and expert advice is available in all cases from manufacturers.

A useful Code of Practice and Manual for Lightweight Metal Fixing Systems is obtainable from the Metal Fixing Association, 32 Queen Anne Street, London, W.1, or from FIDOR (Fibre Building Board Development Organisation Ltd.), Stafford House, Norfolk Street, London, W.C.2.

LIST OF MANUFACTURERS, AGENTS, ETC.

Key: **A**—Standard hardboard. **B**—Tempered hardboard. **C**—Duo-faced hardboard. **D**—Medium hardboard. **E**—Perforated hardboard. **F**—Enamelled hardboard. **G**—Plastic laminate faced hardboard. **H**—Veneered hardboard. **I**—Moulded, embossed and similar hardboards. **J**—Other surfaced hardboards. **K**—Insulating board. **L**—Acoustic boards and tiles. **M**—Wallboards.

ABEIKL	1.	*BOWATERS SALES CO. LTD., Building Boards Division, Bowater House, Knightsbridge, S.W.*1. *KNIghtsbridge* 7070.
AEIKLM	2.	*CELOTEX LTD., North Circular Road, Stonebridge Park, N.W.*10. *ELGar* 5717.
ABDEIKL	3.	*P.I.M. BOARD CO. LTD., Sunbury-on-Thames, Middlesex. Sunbury* 341. *SUNDEALA BOARD CO. LTD., Aldwych House, Aldwych, W.C.*2. *CHAncery* 8159.
AEGKM	4.	*GLIKSTEN BUILDING MATERIALS, Carpenters Road, Stratford, E.*15. *AMHerst* 3300.
KM	5.	*J. R. GORDON & CO. LTD., Newgate Street, Chester. Chester* 22707.
ABCEFHM	6.	*INSULITE PRODUCTS CORPORATION LTD., 41 Kingsway, W.C.*2. *TEMple Bar* 9385.
ABEFGK	7.	*MASONITE LTD., Bevis Marks House, Bevis Marks, E.C.*3. *AVEnue* 2846.
ABDEFKLM	8.	*THE MERCHANT TRADING CO. LTD., Effingham House, Arundel Street, Strand, W.C.*2. *TEMple Bar* 5303.
ABDEFKLM	9.	*THE METAL AGENCIES CO. LTD., Avon Works, Winterstoke Road, Bristol*, 3. *Bristol* 64611.
ABDEFKLM	10.	*SCHARIN PRODUCTS LTD., 21 John Adam Street, Adelphi, W.C.*2. *TRAfalgar* 3356.
ABIKL	11.	*TENTEST FIBRE BOARD CO. LTD., Fiboard House, Oakleigh Gardens, Whetstone, N.*20. *HILlside* 8801.
KL	12.	*TREETEX ACOUSTICS LTD., 8 Guilford Street, W.C.*1. *HOLborn* 2084.
ADEKM	13.	*JAMES WEBSTER & BROS. LTD., Webster House, Derby Road, Bootle, Liverpool*, 20. *Bootle* 4451. *JAMES WEBSTER & BROS. LTD., Dashwood House, Old Broad Street, E.C.*2. *LONdon Wall* 1447.
ABCEFI	14.	*THE WOOD FIBRE WALLBOARD CO. LTD., 8 City Road, Finsbury Square, E.C.*1. *MONarch* 0455.
ABEHJKM	15.	*BECH, NEALE & CO. LTD., 72-78 Fleet Street, E.C.*4. *CENtral* 3386/1239.
GH	16.	*HORNITEX (PLASTICS) LTD., 37-38 Fenchurch Street, E.C.*3. *MANsion House* 6599.
ABDEIKM	17.	*WM. BRANDTS (WALLPLY) LTD., 36 Fenchurch Street, E.C.*3. *MANsion House* 6599.
A	18.	*THEODORE BEATON & CO. LTD., Peter's Buildings, Rumford Street, Liverpool*, 2. *Central* 9601.
A	19.	*E. CONNELLY, 5 North St. David Street, Edinburgh*, 2. *Waverley* 3075.
A	20.	*C. V. HAEREM & CO., 52 Princess Street, Manchester*, 1. *Central* 3168.
AFIKM	21.	*J. EIDELMAN, 28 Bishopsgate, E.C.*2. *LONdon Wall* 6656/7671.
ABDEFKLM	22.	*FLATAU DICK & CO., 9 Camomile Street, E.C.*3. *AVEnue* 5230.
ABFKLM	23.	*FOY, MORGAN & CO. LTD., 16 Eastcheap, E.C.*3. *MANsion House* 4588.
ABDFGHIKLM	24.	*GORDON WATTS & CO. LTD,. City Wall House*, 129-139 *Finsbury Pavement, E.C.*2. *MONarch* 0381.
ABDE	25.	*W. GRANT & CO. (AGENTS) LTD., 5 St. Andrew Square, Edinburgh*, 2. *Waverley* 7341.
ABCDEGIKLM	26.	*LEARY'S FIBREBOARDS LTD., King William Street House,. Arthur Street, E.C.*4. *MINcing Lane* 2424.
AEIKM	27.	*THE KARLIT CO. LTD., 4 Craven House, Kingsway, W.C.*2. *HOLborn* 0550/0660.
ABCDEHIKL	28.	*MARTIN OLSSON & SONS LTD., Melbourne House, Aldwych, W.C.*2. *TEMple Bar* 9644.
AEG	29.	*PHARAOHS PLYWOOD CO. LTD., Adelaide House, London Bridge, E.C.*4. *MANsion House* 5351.
ABKM	30.	*PLYWOOD & TIMBER PRODUCTS AGENCIES LTD., City Gate House (East), Finsbury Square, E.C.*2. *MONarch* 5771.
ABEKM	31.	*PRICE & PIERCE LTD., 27 Clements Lane, E.C.*4. *MANsion House* 6701.
ABE	32.	*THOMAS SIMSON & CO. LTD., 6 Gt. Winchester Street, E.C.*2. *LONdon Wall* 7655.
ABE	33.	*SPENCER LOCK & CO. LTD., City Wall House, Chiswell Street, E.C.*1. *MONarch* 3080.
AEKM	35.	*SWANBOARD LTD., New Bridge Street House*, 30-34 *New Bridge Street, E.C.*4. *CITy* 6036/9.
AKM	36.	*SCANTLEBURY & HEMINGWAY LTD., Cheyne House*, 62-63 *Cheapside, E.C.*2. *CITy* 3222.
L	37.	*PERFONIT LTD., 5 Craven House, Kingsway, W.C.*2. *HOLborn* 0660.
EFH	38.	*NORTH BRITISH PLASTICS LTD., Blaydon, Co. Durham. Blaydon* 346-49.
EFGHIL	39.	*PANELWOOD LTD., Aycliffe Estate, Nr. Darlington, Co. Durham. Aycliffe* 2329.
FG	40.	*LACONITE LTD., Halfway Green, Walton-on-Thames, Surrey. Walton* 1000.

Storage Handling and Site Conditions

In common with timber and other cellulose materials, fibre building board has a moisture content which varies according to atmospheric conditions. Consequently it is important that it should not be left in the open but should be kept under cover in a well ventilated warehouse or store. It should be stacked flat, and when handled it should be carried on edge and not in the flat. Conditioning is also important to ensure that the board will be stabilized at approximately the moisture content which it will reach when the finished building is in use. Insulating board should be conditioned by being loosely stacked under the usage conditions for at least 24 hours, preferably 48, and then fixed immediately. This should be done after the building has been closed in, with all glazing and wet work completed.

Hardboard should be conditioned by damping each board on the back or mesh side by brushing or sponging in about one pint of water to a standard size board. The boards are then laid back to back on a flat surface in the place where they are to be used, left for 24 hours and then fixed; the more water-resistant boards such as tempered hardboards are left for longer—up to 48 hours.

Fixing

The spacing of fixing grounds is important. Framing members should be from 12in to 18in apart and should always run with the length of the board. For ¼in hardboard a maximum of 16in is generally recommended and this also applies to ½in insulating board in 4ft widths. For ½in insulating board in 3ft widths the maximum can be increased to 18in, and for ¾in insulating board to 24in. Headers or cross noggings should be provided at not more than 4ft centres, and the board should have support at all edges, and at skirtings, dados, etc.

The framing timbers should not be less than 1½in by ¾in in size and should provide a straight and true plane for fixing.

An important general rule is never to force boards into position. They should never be in more than moderate contact and it is preferable to leave a slight gap rather than to force edges together.

STANDARD HARDBOARD

Standard hardboard is a homogenous fibre building board with a density exceeding 50lb per cu ft. During manufacture it is subjected to great pressure at very high temperature. It emerges as a tough, dense board, with one perfectly smooth face derived from the polished metal plate of the press, and usually a fine mesh pattern on the reverse. (Duo-faced varieties, smooth on both sides, are also made.) It is available in many thicknesses, the most commonly used in this country being $\frac{1}{8}$in and 3/16in.

Common uses of standard hardboard include wall and ceiling panelling, partitions, flush doors, kitchen cabinets, furniture and fitments, radio and television cabinets, packaging, exhibition construction, shopfitting, vehicle body work (including caravans), shipfitting, and carpentry and handyman uses.

Like other fibre building boards, standard hardboard can be cut, punched, bevelled or routed, using ordinary carpenter's tools. It can be fixed either by nails or by adhesives, and can be decorated quite simply in any of the normal forms of decoration. Design calling for curved surfaces presents no difficulty, as standard hardboard can be bent to a reasonably small radius or curve. Suitably protected by paint, it is also weather-resisting.

Code No.	Brand Name	Sheet Sizes	Thicknesses	Weight lb per sq ft	Shade
30	AHLSTROM	5′ 3″ by lengths from 18′ press	$\frac{1}{16}$″, $\frac{1}{8}$″, $\frac{3}{16}$″	$\frac{1}{8}$″ = 0·624	Mid or ivory faced.
36	ALPEX	4′ x 6′ to 12′	$\frac{1}{8}$″, $\frac{3}{16}$″	0·7, 1·02	Medium/dark.
28	ANKARBOARD	4′ by lengths from 18′ press	$\frac{1}{16}$″, $\frac{1}{8}$″, $\frac{3}{16}$″		Dark.
1	BOWATER	4′ x 6′ to 12′ 5′ x 8′ 2′ 6″ x 6′ 6″ & 5′ x 3′ 4′ x 6′, 9′	$\frac{1}{8}$″, $\frac{3}{16}$″ $\frac{5}{32}$″, $\frac{7}{32}$″, $\frac{1}{4}$″ $\frac{5}{16}$″ $\frac{1}{2}$″	$\frac{1}{8}$″ = 0·7 $\frac{5}{32}$″ = 1·05 $\frac{1}{4}$″ = 1·4	Mid.
13	BRUNEX	4′ x 6′ to 12′	$\frac{1}{8}$″, $\frac{3}{16}$″	0·7, 1·02	Mid.
	BRUNEX, bitumen impregnated	4′ x 6′ to 12′	$\frac{1}{8}$″	0·7	Dark.
2	CELOTEX GOLD STAR	4′ x 6′ to 12′, 6′ x 2′	$\frac{1}{8}$″, $\frac{3}{16}$″	0·7, 0·98	Mid.
	CELOTEX SEALCOAT (ready for painting)	4′ x 6′ to 12′, 6′ x 2′	$\frac{1}{8}$″, $\frac{3}{16}$″	0·7, 0·98	Mid.
6	ENSO	4′ & 5′ 3″ x 6′ to 18′	$\frac{1}{16}$″, $\frac{1}{8}$″, $\frac{3}{16}$″, $\frac{1}{4}$″		Mid.
28	ESCA (sealed surface)	4′ x lengths from 18′ press	$\frac{1}{8}$″		Mid.
17	FIBONITE	4′ x 6′ to 12′	$\frac{1}{8}$″, $\frac{3}{16}$″	Abt. 0·75 & 0·94	Light or dark.
26	FIBREX	4′ x 6′ to 12′ & door sizes	$\frac{1}{16}$″, $\frac{1}{8}$″, $\frac{3}{16}$″		Light or dark.
23	FINNISH LION	4′ x 6′ to 12′	$\frac{1}{16}$″, $\frac{1}{8}$″, $\frac{3}{16}$″	0·5, 0.67, 1·0	Dark.
4	HERNITE	4′ x 6′ to 18′ 5′ 3″ x 7′	$\frac{5}{32}$″, $\frac{1}{4}$″, $\frac{3}{16}$″ $\frac{1}{8}$″	0·47, 0·65, 0·94 0·65	Dark or ivory faced.
24	HOMANITE	Approx. 6′ 6″ x 6′ to 12′ 4′ x 6′ to 12′	$\frac{1}{8}$″, 4mm		Mid.
25, 32	HOLMENBOARD	4′ x 6′ to 14′	$\frac{1}{8}$″, $\frac{3}{16}$″	0·72 & 0·97	Mid.
17	HORN (super)	5′ 6″ x 8′ 6″	$\frac{1}{8}$″, $\frac{3}{16}$″		Dark.
22	HUNTONIT	4′ x 6′ to 12′	1/10″, $\frac{1}{8}$″, $\frac{3}{16}$″	$\frac{1}{8}$″ = 0·72, $\frac{3}{16}$″ = 1·02	Mid.
27	KARLIT	4′ x 5′ 3″ x 6′ to 12′ & door sizes 4′ x 6′ to 12′ 4′ x lengths from 18′ press	$\frac{1}{8}$″, $\frac{3}{16}$″, $\frac{1}{4}$″ 1/10″ $\frac{1}{8}$″, $\frac{3}{16}$″, $\frac{1}{4}$″	1/10″ = 0·5 $\frac{1}{8}$″ = 0·7 $\frac{3}{16}$″ = 0·94 $\frac{1}{4}$″ = 1·08	Mid. Ivory faced.
15	KATRINITE	4′ x lengths from 18′ press	$\frac{1}{8}$″	0·73	Brown.
21	LIGNA	4′ x 6′ to 12′	$\frac{1}{8}$″, $\frac{3}{16}$″	0·68, 1·03	Light.
28	LW	4′ x lengths from 18′ press 4′ x lengths from 18′ press	2mm, $\frac{1}{8}$″, $\frac{3}{16}$″ $\frac{1}{8}$″, $\frac{3}{16}$″		Light. Dark.
14	MASONITE STANDARD PRESDWOOD (South African)	4′ x 6′ to 12′ ($\frac{1}{8}$″ also in door sizes)	1/10,″ $\frac{1}{8}$″, $\frac{3}{16}$″ $\frac{1}{4}$″, $\frac{5}{16}$″, $\frac{1}{2}$″	0·58, 0·72, 1·00 1·32, 1·65, 2·38	Dark.
	MASONITE STANDARD PRESDWOOD (South African) Primecote	4′ x 6′ to 12′ ($\frac{1}{8}$″ also in door sizes)	1/10″, $\frac{1}{8}$″, $\frac{3}{16}$″ $\frac{1}{4}$″, $\frac{5}{16}$″, $\frac{1}{2}$″	0·58, 0·72, 1·00 1·32, 1·65, 2·38	Greyish white (ready for painting).
7	MASONITE STANDARD PRESDWOOD (Swedish)	4′ s 2′ to 14′ 4′ x 8′, 12′ 4′ x 9′	$\frac{1}{8}$″ $\frac{5}{32}$″ $\frac{3}{16}$″, $\frac{1}{4}$″	Abt. 0·75 Abt. 1·06 Abt. 1·19, 1·8	Mid.
26	NIVOLITE	4′ x 6′ to 12′ & door sizes	$\frac{1}{16}$″, $\frac{1}{8}$″, $\frac{3}{16}$″		Dark or light.
26	NOSTEX	4′ x 6′ to 12′	1/10″, $\frac{1}{8}$″, $\frac{3}{16}$″, $\frac{1}{4}$″		Mid.
17, 18, 20	PILGRIMBOARD	4′ x 6′ to 12′	$\frac{1}{8}$″, $\frac{3}{16}$″	0·75, 0·94	Mid.
19	PILGRIMBOARD	4′ x 6′ to 12′	$\frac{1}{8}$″, $\frac{3}{16}$″, $\frac{1}{4}$″	0·75, 0·94, 1·06	Mid.
17	P.V.	4′ x 8′	$\frac{1}{8}$″, $\frac{3}{16}$″	0·69, 1·0	Light.
26	P.V.	4′ x 8′	$\frac{1}{8}$″, $\frac{3}{16}$″, $\frac{1}{4}$″		Mid.
33	ROYAL	4′ x 2′ to 12′ 5′ 3″ x 6′ to 12′ Door sizes	$\frac{1}{8}$″	0·75	Mid.
		4′ x 6′ to 12′ 5′ 3″ x 8′	$\frac{3}{16}$″	1·06	

Code No.	Brand Name	Sheet Sizes	Thicknesses	Weight lb per sq ft	Shade
15	SAVOBOARD	4′ x lengths from 18′ press	⅛″, 7/32″	0·7, 1·02	Brown and off-white.
29	SCHAUMAN	4′ x 6′ to 12′ 4′ x 6′ to 12′	⅛″, 7/32″ ¼″	0·66, 0·99 0·66	Mid. Ivory faced.
3	SOVEREIGN	4′ x 6′ & 8′; 2′ x 6′ & door sizes	⅛″, 7/32″	0·69, 0·91	Mid.
	SUNDEALA STANDARD	4′ x 10′ & 12′	⅛″, 7/32″	0·69, 0·91	Mid.
35	SUPER SWAN	4′ x 2′ to 12′ & door sizes	⅛″, 7/32″, ¼″	0·70, 1·05, 1·40	Dark.
11	TENTEST	4′ x 6′ to 12′	⅛″	0·62	Mid-dark.
32	TIMBERIT	4′ x lengths from 18′ press	⅛″, 3/16″, ¼″ 7/32″, ⅜″, ½″	0·73, 0·97, 1·44 1·72, 2·13, 2·85	Dark.
31	TREETEX	4′ x 6′ to 12′ Door sizes (5′ 3″ x 16″ press) 4′ x 6′ to 12′	7/32″, ¼″, 5/16″ ⅜″ ½″	0·5, 0·7, 1·0 0·7 1·2	Dark or light. Dark. Dark.
15	UNABOARD	4′ x lengths from 18′ press 4′ x lengths from 18′ press	7/32″, ⅜″ ½″, 5/8″	0·53, 0·72 0·72, 1·02	Brown. Off-white.
8, 9, 10	UNITEX 120 141	4′ x 6′ to 12′ & door sizes	5/16″, ½″, 5/8″	0·46, 0·69, 0·90	Light. Dark.
24	WIFSTABOARD	4′ x 6′ to 12′ & door sizes	⅛″, 7/32″		Mid.
23	WIRUS	From 6′ 8″ x 17′ press	⅛″, 4mm, 5mm	0·65, 0·81, 1·02	Dark.

Standard hardboard was used for wall and ceiling cladding in the central feature of the recent Furniture Exhibition at Earls Court, London. The feature rose to a height of 33ft from floor level and had two pairs of elevating and descending stages which acted in counterbalance. The mechanism was operated by magnetic contacts on the sound track of the commentary on the rooms of the feature. Architect: Misha Black, O.B.E. Associated Architect: John Bruckland. Interior Designers: Elizabeth Henderson and Jo Pattrick

APPROXIMATE PRICE RANGE

THE fibre building board trade is highly competitive and prices differ considerably between the many different brands and also from time to time, and, of course, with quantity. It is, therefore, not possible to give exact details of prices, but the following list provides a guide to the approximate price ranges of the various categories of board at the present time. These are the prices which builders and contractors may expect to pay per square foot:

Type of Board	Thickness	Price range
Standard hardboard	⅛″	5d—6d
	7/32″	6d—7½d
Medium hardboard	¼″	9d—11d
Tempered hardboard	⅛″	7d—8d
	7/32″	9d—10d
	¼″	1/-
Pegboard standard		6d—7d
enamelled		2/-
Enamelled hardboard		1/9—1/11
Plastic-faced hardboard		2/9—3/6
Reeded hardboard		7d—8d
Moulded or embossed hardboard		1/-
Insulating board (natural)	½″	5d—6d
	¾″	8d—9d
Insulating board (white or cream faced)	½″	6d—7d
	¾″	9d—10d
Insulating board (fire retardant, Class 1, B.S. 476)	½″	9d
	¾″	1/3
Wallboard (natural)	5/16″	4d
Wallboard (white or cream faced)	5/16″	5d
Acoustic board and tiles	½″	1/6—1/8
	¾″	1/9—2/-

CONVERSION TABLE FOR THICKNESSES

Metric (mm)	British (inch)	Decimal (inch)
2	—	0·078
—	3/32	0·094
—	1/10	0·100
3	—	0·118
—	⅛	0·125
4	—	0·157
—	5/32	0·187
5	—	0·197
—	¼	0·250

TEMPERED HARDBOARD

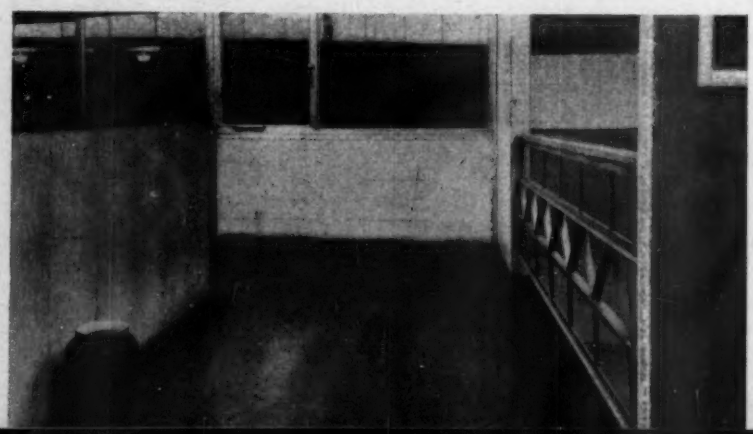
Tempered hardboard is standard hardboard which has been treated by oil- or resin-impregnation in the course of manufacture to increase its strength and water resistance. It is sometimes called "oil tempered", "ultra" or "super" hardboard. It tends to be darker in colour than standard hardboard.

Uses of tempered board include all those for standard hardboard, and in particular wherever moisture- or abrasion-resisting surfaces are required. This includes outdoor uses, flooring, concrete form-work, some types of containers, working surfaces in drawing offices, factories and elsewhere, linings in exposed areas, coach-building, and generally for panelling jobs where extra resistance to abrasion is required.

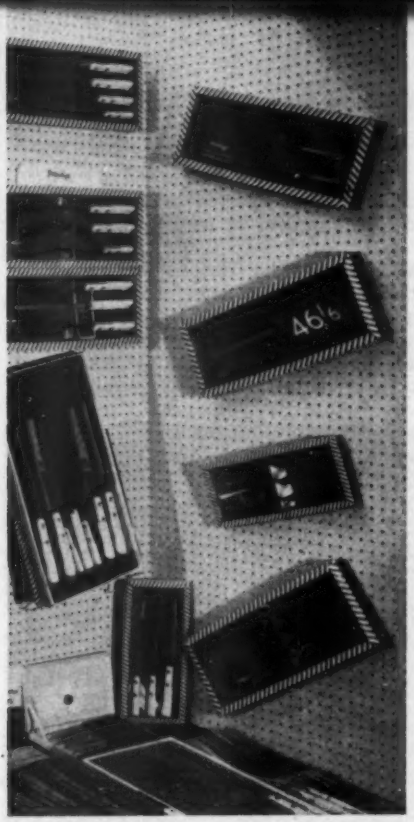
Code No.	Brand Name	Sheet Sizes	Thicknesses	Weight lb per sq ft	Treatment
30	AHLSTROM	5' 3" x lengths from 18' press	$\frac{1}{8}$", $\frac{3}{16}$"	$\frac{1}{8}$" = 0·62	Oil tempered.
1	BOWATER	4' x 6' to 12', 5' x 8' 4' x 6' & 9', 5' x 8'	$\frac{1}{8}$", $\frac{3}{16}$" $\frac{1}{4}$"	0·75, 1·1 1·5	Impregnated with linseed oil & tempered.
6	ENSO	4' & 5' 3" x 6' to 18'	$\frac{3}{16}$", $\frac{1}{8}$", $\frac{3}{16}$", $\frac{1}{4}$"		
17	FIBONITE	4' x 6' to 12'	$\frac{1}{8}$" $\frac{3}{16}$"	0·81, 1·0	Oil.
23	FINNISH	4' x 6' to 12'	$\frac{3}{16}$", $\frac{1}{8}$", $\frac{3}{16}$"	0·52, 0·7, 1·05	Oil surfaced.
25	HOLMENBOARD	4' x 6' to 12'	$\frac{1}{8}$", $\frac{3}{16}$"	0·72, 0·97	Treated with tall oil during manufacture.
24	HOMANITE	Approx. 6' 6" x 6' to 12'	4mm		Resin bonded.
22	HUNTONIT	4' x 6' to 12'	$\frac{1}{8}$", $\frac{3}{16}$"		Oil baked.
28	LW	4' x lengths from 18' press	$\frac{1}{8}$"		Oil impregnated during manufacture.
14	MASONITE Tempered Presdwood (S. African) Also Primecote (ready for painting)	4' x 6' to 12'	$\frac{1}{8}$", $\frac{3}{16}$", $\frac{1}{4}$", $\frac{5}{16}$", $\frac{3}{8}$"	0·76, 1·03, 1·36, 1·69, 2·46	Fully impregnated with chemicals & hardening oils.
	MASONITE Concrete Formboard (S. African)	4' x 6' to 12'	$\frac{3}{16}$", $\frac{1}{4}$", $\frac{5}{16}$"	1·04, 1·37, 1·70	As above but double tempered.
7	MASONITE Tempered Presdwood (Swedish)	4' x 8' & 12' 4' x 9'	$\frac{1}{8}$", $\frac{3}{16}$" $\frac{1}{4}$", $\frac{5}{16}$"	0·78, 1·09 1·22, 1·56	Full oil impregnation.
11	MASONITE Tempered Tileboard	4' x 8'	$\frac{1}{8}$"	0·75	Oil impregnated.
26	PINEX	4' x 8'	$\frac{1}{8}$", $\frac{3}{16}$", $\frac{1}{4}$"		
17 & 26	P.V.	4' x 8'	$\frac{1}{8}$", $\frac{3}{16}$", $\frac{1}{4}$"	0·75, 1·06, 1·28	
33	ROYAL	4' x 6' to 12', 5' 3" x 8'	$\frac{1}{8}$", $\frac{3}{16}$"	0·75, 1·06	Fully impregnated during manufacture with natural wood oil.
3	SOVEREIGN	4' x 6' to 12'	$\frac{1}{8}$", $\frac{3}{16}$"	0·75, 0·92	Impregnated to own recipe.
32	TIMBERIT TEMPERED	4' x lengths from 18' press	$\frac{1}{8}$", $\frac{5}{32}$", $\frac{1}{4}$", $\frac{5}{16}$", $\frac{3}{8}$"	0·77, 1·02, 1·52 1·81, 2·24, 2·99	Oil impregnated during manufacture.
	ARMOURBOARD	4' x lengths from 18' press	$\frac{1}{8}$", $\frac{3}{16}$", $\frac{1}{4}$"	1·56, 1·88, 2·43	As above but double pressed.
31	TREETEX	4' x 8' to 10'	$\frac{1}{8}$", $\frac{3}{16}$", $\frac{1}{4}$"	0·7, 1·0, 1·25	Oil impregnated during manufacture.
15	UNABOARD	4' x lengths from 18' press	$\frac{1}{8}$"	0·76	Oil impregnated.
8, 9, 10	UNITEX	4' x 6' to 12'	$\frac{1}{8}$", $\frac{3}{16}$"	0·70, 0·92	Fully impregnated during manufacture.

DUO-FACED HARDBOARD

Code No.	Brand Name	Sheet Sizes	Thicknesses	Weight lb per sq ft	Description
6	INSULITE	4' x 8' & 9'	2mm, $\frac{1}{8}$", $\frac{3}{16}$", $\frac{1}{4}$"		
28	LW	4' x 9'	2mm, 3mm		Oil tempered.
14	AMERICAN MASONITE TEMPERED DUOLUX	4' x 8	$\frac{1}{8}$", $\frac{3}{16}$", $\frac{1}{4}$"	0·75, 1·125, 1·5	Tempered, dark.
26	PINEX	4' x 8'	$\frac{1}{8}$", $\frac{3}{16}$", $\frac{1}{4}$"		Dark.

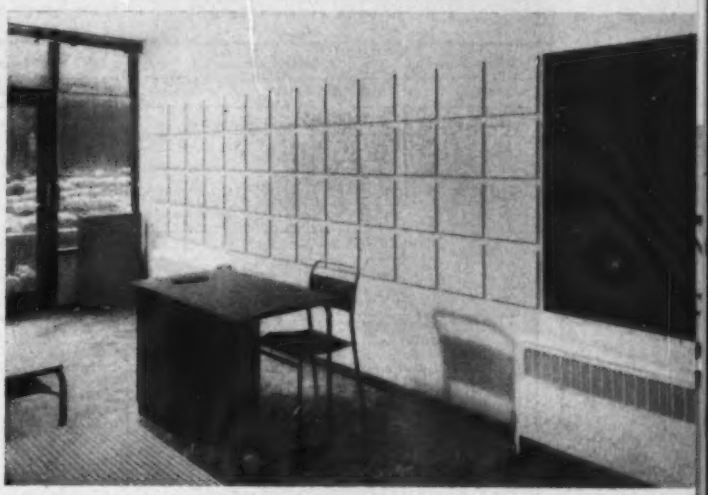


This section of floor comprises $\frac{1}{8}$in oil tempered hardboard in the sizes 12in by 12in, 12in by 16in and 16in by 16in. Laying was undertaken by the National Flooring Co., the sections being held in position by panel pins and Armstrongs L.500 Adhesive. Surface treatment: two cloth applied applications of Ronseal, followed by periodic non-slip wax polishing



Perforated standard hardboard, otherwise known as pegboard, is very widely used in shopfitting. Proprietary pegboard hooks are used to suspend displays of products such as those illustrated above

Medium hardboard lines upper walls and ceilings of this corridor at Southall Technical College



Medium hardboard used both for the blackboard and wall lining in an L.C.C. school

MEDIUM HARDBOARD

Medium hardboard, sometimes called "semi" hardboard, is a homogeneous fibre building board with a density of at least 30lb per cu ft but not more than 50lb per cu ft. It thus occupies an intermediate position between standard hardboard and fibre insulating board. It can have either a matt or a glossy surface, and is available in various shades of brown and in grey. By virtue of extra thicknesses (up to ½in) medium hardboard has higher qualities of rigidity than the most commonly used thicknesses of standard hardboard, but it does not have such a hard surface or such structural strength.

It is widely used for wall and ceiling panelling, for chalk boards and pin-up boards, as an underlay to floor coverings, for cut-out lettering, exterior signs, relief carving and display work generally, in shipfitting, and in railway coaches, motor-cars and caravans. Some medium hardboards can be used externally just as well as other hardboards. Besides flat sheets some manufacturers can supply moulded shapes, e.g., for panelling curved surfaces.

Code No.	Brand Name	Sheet sizes	Thicknesses	Weight lb per sq ft	Shade
13	BRUNEX	4′ x 6′ to 12′	¼″	1·02	Mid.
13	BRUNEX (bitumen impregnated)	4′ x 6′ to 12′	¼″	1·02	Dark.
17	FIBONITE	4′ x 6′ to 12′	¼″	1·03	Light or dark.
26	FIBREX	4′ x 6′ to 12′	¼″		Mid.
22	HUNTONIT	4′ x 6′ to 12′	¼″	0·98	Mid.
25	HOLMENBOARD	4′ x 6′ to 14′	¼″	1·02	Mid.
28	LW	4′ by lengths from 18′ press	¼″		Light.
17	PILGRIMBOARD	4′ x 6′ to 12′	¼″	1·06	Dark.
17	P.V.	4′ x 8′	¼″	1·19	Light.
3	SUNDEALA A	4′ x 8′ 4′ x 6′ & 12′ 3′ x 8′ & 12′; 6′ x 12′	¼″ ¼″, ⅜″, ½″	1·5 0·75, 1·12, 1·8	Mid.
	SUNDEALA K	4′ x 6′, 8′ & 12′	¼″, ½″	0·69, 0·87	Mid.
	SUNDEALA FLAMEPROOF	4′ x 8′	¼″	0·67	Grey.
8, 9, 10	UNITEX	4′ x 6′ to 12′	¼″	1·02	Light or dark.
24	WIFSTABOARD	4′ x 6′ to 12′	¼″		

PERFORATED HARDBOARD

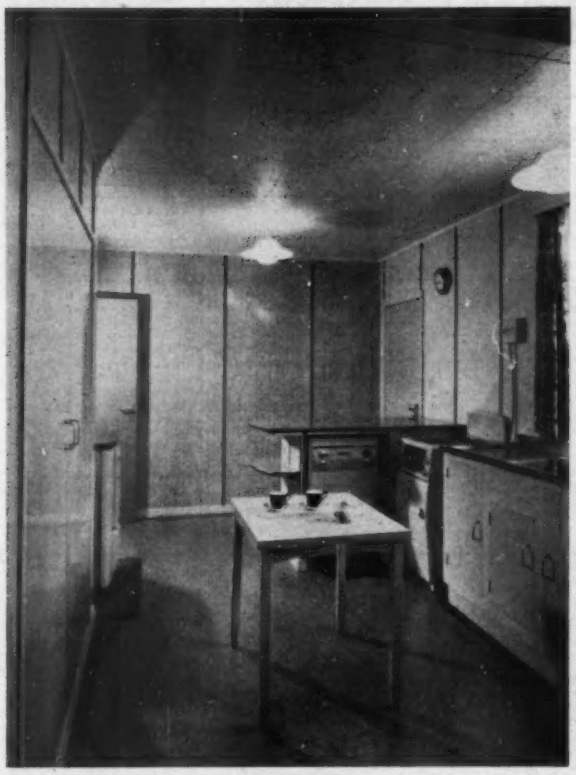
Both standard and tempered hardboards are available in perforated form, often referred to as "pegboard". Holes of various diameters and spacings are punched through the board. It can also be obtained slotted and in various decorative surfaces.

Perforated hardboard lends itself to a great number of uses, including interior decoration (where its distinctive texture can be fully exploited), shopfitting and display, exhibition work, suspension units in drawing offices, factories and the home, vent covers, ventilation panels and surfacing to acoustic materials. A facing with 7 to 10 per cent of its area removed by perforation is acoustically transparent to sound in the lower and medium frequency ranges, which are important from the architect's point of view. In shopfitting, where pegboard's unique combination of decorative interest and functional utility is at its most valuable, it is probably the greatest single modern development.

Pegboard will support heavy as well as light articles, shelves, lettering and display material. A number of systems of special clips, holders and supports have been developed to provide simple and easily fixed means of display in conjunction with the board.

Code No.	Brand Name	Sheet Sizes	Thicknesses	Perforations	Description
28	ANKARBOARD	4′ x standard lengths	⅛″, ¼″	⅛″ dia. at ½″ & 1″ c/c	Standard.
1	BOWATER	4′ x 6′, 9′	¼″	⅛″ dia. at ½″ & ½″ c/c	Standard.
13	BRUNEX	4′ x 6′ to 12′	⅛″, ¼″, ½″	{⅛″ dia. at ½″, ½″, 1″ c/c; ⅜″ at 1″ c/c}	Standard, also ½″ med.
		4′ x 6′ to 12′	¼″	{(⅛″ square holes at 1″ c/c (⅛″ diamond holes at ½″ & 1″ c/c}	Standard.
2	CELOTEX GOLD STAR	4′ x 6′ to 12′; 6′ x 2′	⅛″, ¼″	⅛″ dia. at ½″, ½″ c/c	Standard.
	CELOTEX SEALCOAT	4′ x 6′ to 12′; 6′ x 2′	⅛″, ¼″	⅛″ dia. at ½″, ½″ c/c	Ready for painting.
38	CHALLENGE	4′ x 8′	¼″	⅛″ dia. at ½″ c/c	Stove enamelled.
6	ENSO	4′ & 5′ 3″ x 18′	⅛″, ¼″	5mm dia. at 15mm c/c	Standard.
17	FIBONITE	4′ x 6′ to 12′	⅛″, ¼″	⅛″ dia. at ½″, ½″, 1″ c/c	Standard.
26	FIBREX	4′ x 6′ to 12′	⅛″, ¼″, ⅜″	⅛″ dia. at ½″, ½″ c/c	Std. & light coloured.
4	HERNITE	4′ x 6′ & 8′	¼″	⅛″ dia. at ½″, ½″ c/c	Standard.
25	HOLMENBOARD	4′ x standard lengths	⅛″, ¼″, ½″	{⅛″ dia. at ½″ & 1″ c/c Also zigzag pattern ⅛″ dia. at 1″ c/c}	Oil treated.
22	HUNTONIT	4′ x 6′ to 12′	⅛″	⅛″ dia. at ½″ & 1″ c/c	Standard, also crinkle lacquer.
6	INSULITE	4′ x 8′ & 9′	2mm, ¼″	5mm dia. at 15mm c/c	Standard or white painted and enamelled.
27	KARLIT	4′ x 6′ to 12′	⅛″, ¼″	{⅛″ dia. at ½″ c/c 5mm dia. at ½″ c/c 4 & 5mm dia. at 15mm c/c 5, 6, 7, 8mm dia. at 20mm c/c}	Standard or ivory-faced,
15	KATRINITE	4′ x standard lengths	⅛″	⅛″ dia. at ½″, ½″, 1″ c/c 4mm dia. at 15mm c/c	Standard.
28	LW	4′ x lengths from 18′ press	⅛″, ¼″	⅛″ dia. at ½″, ½″, 1″ c/c Also 3 distinctive patterns	Standard.
14	MASONITE Perforated Presdwood (S. African)	4′ x 6′ to 12′	⅛″, ¼″	⅛″ dia. at ½″, ½″, 1″ & alternating ½″ & 1″ c/c ½″ dia. at 1″ c/c	Standard, Tempered, Primecote and Leatherwood.
7	MASONITE Perforated Presdwood (Swedish)	4′ x 8′	¼″	5mm dia. at ½″ & 1″ c/c	Standard and Enamelled.
26	NIVOLITE	4′ x 6′ to 12′	⅛″, ¼″	⅛″ dia. at ½″ & ½″ c/c ½″ dia. at 1″ c/c	Dark and ivory board.
26	NOSTEX	4′ x 2′ & 6′ to 12′	1/10″, ⅛″, ¼″, ½″	⅛″ dia. at ½″ & ½″ c/c	Standard and P.V.C.-faced.
39	PANELWOOD	4′ x 4′, 6′, 8′	⅛″, ¼″, ½″	⅛″ dia. at ½″ & ½″ c/c	Processed including flameproofing.
17, 26	PV AERO	4′ x 8′	⅛″, ¼″, ½″	⅛″ dia at ½″ & 1″ c/c	Standard and tempered.
33	ROYAL	4′ x 6′ to 12′	⅛″, ¼″	⅛″ dia. at ½″, ½″, 1″ c/c	Standard and oil tempered.
15	SAVOBOARD	4′ x standard lengths to 12′	¼″	4mm dia. at 15mm c/c ⅛″ dia. at ½″, ½″, 1″ c/c	Standard.
29	SCHAUMAN	4′ x 6′ to 12′	¼″	⅛″ dia. at ½″, ½″, 1″ c/c	Standard and ivory-faced.
3	SOVEREIGN	4′ x 4′ to 12	⅛″, ¼″	⅛″ dia. at ½″ c/c	Any grade,
35	SUPER SWAN	4′ x 2′ to 12′	⅛″, ¼″, ½″	⅛″ & ⅜″ dia. at ½″, ½″, 1″ c/c	Standard.
32	TIMBERIT	4′ x lengths from 18′ press	⅛″, ¼″, ½″	{⅛″ sq. at ½″ c/c ⅛″ dia. at ½″, 1″ c/c ⅛″ dia. at 1″ c/c with ½″ between rows. ⅜″ x ⅛″ slots at ½″ c/c with ½″ between rows}	Standard and tempered.
31	TREETEX	4′ x 6′ to 12′	⅛″, ¼″ & ½″ (dark only)	⅛″ dia. at ½″, ½″, 1″ c/c	Standard—light or dark in colour.
8, 9, 10	UNITEX	4′ x 4′, 6′ & 8′	⅛″, ¼″	⅛″ dia. at ½″ & 1″ c/c	Standard and enamelled.

Below: Walls and cupboards of this kitchen in a new private house in Liverpool are lined with surfaced hardboard. The board is fixed to batten work by impact adhesive, and the cover strips are extruded plastic. The ceiling is lined with squares of fibre insulating board
Top right: Moulded hardboard used for office partition panels. Bottom right: Messrs. Walter Smith, butchers, Sutton Coldfield. As in so many modern food shops, extensive use has been made of the easily cleaned surfaced hardboards, including check-patterned plastic-faced board



SURFACED HARDBOARD

One of the largest manufacturing developments in the field of hardboards in recent years has been the production of surfaced boards. These are enamelled, plastic-faced, and veneered or imitation veneered. Standard and tempered hardboards are both treated in these ways to produce a predecorated sheet material combining the general advantages of hardboard with the particular qualities of the various types of surface treatments.

Enamelled hardboard is produced in a wide range of colours, with either plain or tiled surfaces. They include lacquered and stove-enamelled treatments. Common uses include wall linings, ceiling panels, shelving, partitions, splashbacks, bath panels and kitchen and canteen fitments. Enamelled board is particularly useful where a hygienic and easily washable surface is required—for example, in the catering industry, hospitals, laboratories, clinics, canteens, toilets, etc. It is also used a great deal for shopfitting and display work.

Plastic-faced hardboards are standard hardboards surfaced with melamine or other plastic laminates. All types are used for vertical and other comparatively light-duty surfaces, while melamine and similar plastics give a hard-wearing surface resistant to heat, abrasion and household acids. These are therefore suitable as working surfaces, including laboratory bench tops, counters, table tops, etc.

Plastic-faced hardboard is available in a wide range of colours and surface finishes, including linens, marbles, wood grains, pebble and contemporary designs.

Veneered hardboards. Hardboard is an ideal material for the application of wood veneers and many veneering firms use hardboard for the application of the whole range of natural wood veneers. In addition, it can be used as the basis for photographic imitation veneers.

Moulded or embossed hardboards are forms of standard or tempered hardboard which have a pattern impressed into their surface during manufacture, the plates in the press being patterned instead of having a flat, plain surface. This produces reeding, fluting, leather grain, tiles, grooves, slats and other designs. The board is used in panelling, furniture, shop- and bar-fitting, display and exhibition work, and wherever this special type of built-in decorative pattern is called for.

SURFACED HARDBOARDS

(a) Enamelled

Code No.	Brand Name	Sheet Sizes	Thicknesses	Colours	Remarks
38	CHALLENGE POPULAR	4′ x 6′ & 8′	⅛″	Black, white, jade, old ivory, cream, blue, pearl, grey, red, corallin, primrose	Plain or with 4″ or 6″ square tile pattern.
24	HOMASA	Approx. 4′ x 8′	4mm	Various	Plain or tiled.
22	HUNTONIT	4′ x 6′ to 12′	⅛″	Red, yellow, ivory, light blue, dark blue, green, white	Crinkle lacquer finish —also tiled pattern, smooth finish (up to 9′ lengths).
6	INSULAC	4′ x 8′ & 9′	⅛″	Full range	Plain, tiled or plank pattern. Smooth, sealed reverse.
40	LACONITE	4′ x 6′ & 8′	⅛″, ¼″	12 colours	Plain or with 4″ or 6″ tile pattern.
14	MASONITE (South African)	4′ x 8′	⅛″	Various 2-tone effects	Tone-on-tone enamel on tempered leather-wood or grainwood.
14	MASONITE Schoolboard (South African)	3′ & 4′ x 6′ to 12′	¼″	Black, green	For chalk writing. Sealed back.
7	MASONITE Enamelled Presdwood (Swedish)	4′ x 6′ & 8′	⅛″	Various	Plain or with 4″ or 6″ tile pattern.
21	NEOCAST	7′ 5″ x 4′ 3″	⅛″	Metallised green, gold, ivory	
38	PANALAC	4′ x 6′ & 8′	⅛″, ¼″	Marble & woodgrain effects	
39	PANELWOOD	4′ x 4′, 6′ & 8′	⅛″, ¼″, ½″	White, cream, peach, primrose, green, turquoise, lavender, coral, grey, red, black	Plain, or with 4″ or 6″ tile pattern in contrast colour Also horizontal grooves, satin and marble effects.
8, 9, 10	UNITEX	4′ x 2, 6′ & 8′ & bath panels	⅛″, ¼″	White, cream, 3 greens, blue, primrose, pink, red, grey, black	Plastic enamel, plain or tiled pattern.
23	WIRUS DECOR	6 6″ x 4 1″	4mm	White, ivory, black, 2 greens, blue, red, yellow. Also hammered finish in blue, old gold, 2 greens	Lacquered, plain or with 4″ or 6″ tile pattern.

(b) Plastic Laminate Faced

Code No.	Brand Name	Sheet Sizes	Thicknesses	Type of Plastic	Colour, etc.
4	FLEXENE	4′ x 8′	⅛″	Melamine	Linen, mosaic, wood imitates, etc etc.
24	HOMAPAS	4′ x 8′	4mm.	Melamine	Linen range, red, blue, green, beige. Compensated on reverse—several colours.
16	HORNITEX	5′ 6″ x 8′ 4″ & 4′ 2″ 2′ 9″ x 8′ 4″	3mm.	Melamine	Linen, Irish linen, Plain Colours, Crystal, Primavera, Mosaic, Arabesque, Marble, Filigree.
7	MASONITE TEMPERED PLASTIC (Swedish)	4′ x 6′	⅛″	Melamine	Various. Linen finish.
26	NOVELON	4′ x 8′	⅛″	Melamine	Various colours and designs.
39	PANELWOOD	4′ x 4′, 6′ & 8′	⅛″, ¼″, ½″	P.V.C.	Black, white, 8 colours Two printed designs. Flame proof.
40	TABLE-TOP	4′ x 9′	⅛″		8 colours. Suitable for working surfaces.
29	WISABOARD	4′ x 9	⅛″	Melamine	23 colours and designs, including wood grains.

(c) Veneered, including wood imitates

Code No.	Brand Name	Sheet Sizes	Thicknesses	Remarks
24	HOMAPAS	4′ x 8′	4mm	Macore, Mansonia.
16	HORNITEX	5′ 6′ x 4′ 2″ & 8′ 4″ 2′ 9″ x 8′ 4″	3mm	Birds' eye maple, Mahogany, Walnut, Straightgrain Walnut.
38	PANALAC	4′ x 6′ & 8′	⅛″, ¼″	
28	PANELLA	4 x 6′ & 9′	⅛″	8 wood grains.
39	PANELWOOD	2′ & 4′ x 4′, 6′ & 8′	⅛″, ¼″, ½″	Mahogany, walnut, Indian laurel, oak—total of 9 shades.
15	SAVOPANEL	4′ x lengths from 18′ press	⅛″	Oak, elm, rosewood sapele/mahogany, walnut.

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P

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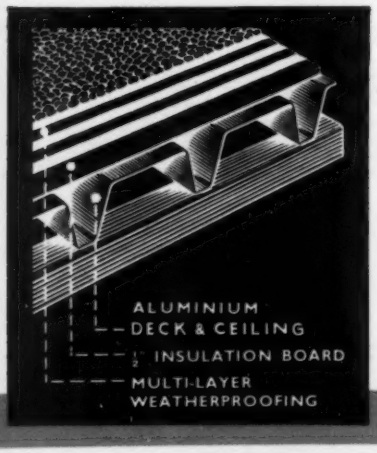

An organisation manufacturing pharmaceutical products demands the highest possible standards of building construction. The roof must be completely dustproof; it must be designed to provide a constant temperature; be free from condensation, and of course, fully weatherproof. Only "Bitumetal", the last word in roofing offered these advantages and was therefore specified by Beechams for their extensive new building.

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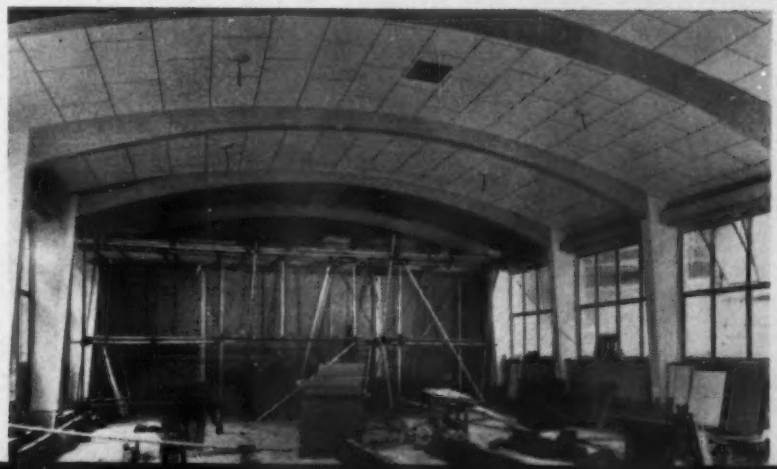
(d) Moulded, Embossed and Similar

Code No.	Brand Name	Sheet Sizes	Thicknesses	Patterns
1	BOWATER	4′ x 6′ & 9′	¼″	Reeded (⅜″ reeds); Leathergrained.
2	CELOTEX GOLD STAR	4′ x 6′ & 9′	¼″, 5/16″	Reeded (⅜″ reeds).
17	FIBONITE	4′ x 4′ & 12′	5/16″	
24	HOMANITE Leatherboard	5′ 9″ x 8′ 6″ 4′ x 8′	4mm	
27	KARLIT	4′ x 6′ to 12′	⅛″, 5/16″, ½″	4″ & 6″ sq tile pattern. Standard or ivory faced.
28	LW MOULDED	4′ x 9′	¼″	Linenfold, reed and bead, striated, slatted, close slatted, tiled, wide slatted, corrugated.
	LW REEDED	4′ x 6′ & 9′ 6′ & 9′ x 4′	¼″	1″ reeds.
11	MASONITE Leatherwood (Canadian)	4′ x 8′	¼″	Leather grain, various colours.
14	MASONITE—Grainwood (S. African) Leatherwood Reedwood Canewood Tileboard	4′ x 8′ & 12′ 4′ x 8′ & 12′ 4′ x 8′ & 12′ 4′ x 8′ & 12′ 4′ x 8′ & 12′	¼″ ¼″ ¼″ ¼″ ¼″	Oregon pine (Standard and tempered). Spanish leather (Standard and tempered). ⅜″ longitudinal reeds (Standard and tempered). 1″ longitudinal reeds (Standard only). 4″ & 6″ tile patterns (Standard and tempered).
21	NEOCAST	7′ 5″ x 4′ 3″	¼″	1″ reed lengthwise. 1″ reed crosswise. ⅜″ reed lengthwise. ⅛″ flute lengthwise. 3½″ square tile. Check pattern ⅜″ reeds.
26	NIVOLITE	4′ x 6′ to 12′	¼″	Tiled.
39	PANELWOOD REEDED	4′ x 4′, 6′, 8′	¼″	Panelwood colours.
17, 26	P.V. PLANKBOARD	4′ x 8′	¼″	3 machined grooves on 8″ or 16″ centres.
	P.V. SQUARE-TEX	4′ x 8′	¼″	Machined 12″ or 16″ squares.
3	SOVEREIGN REEDED	4′ x 8′	¼″	⅜″ reeds.

(e) Other

Code No.	Brand Name	Sheet Sizes	Thicknesses	Remarks
15	UNABOARD '3215'	4′ x 10′	¼″	Pre-decorated, flame retardant, washable ivory surface.



Above: Factory of Woodfield Hoist & Associated Industries Ltd., of Rochester. Ceiling and upper walls are lined with ¼in fibre insulating board fixed by a V-clip system. Dado panels are composite sheets of ⅛in hardboard and ¼in insulating board. Below: University of Exeter, Lopes Hall of Residence. The dining hall has this ceiling of fibre insulating boards mounted on an exposed metal grid. Architect: R. M. Challice & Son

INSULATING BOARD

Fibre insulating board, as defined by British Standard, has a density not exceeding 25lb per cu ft, a conductivity value not exceeding 0·45 (it is usually much lower), and a nominal thickness of at least ½in. It is constituted of wood or cane fibre but the formed sheets do not go through presses as hardboard does. Hence the lower density of the finished product. While rigid and self-supporting, it is lightweight and porous with good sound-absorbing properties in addition to its low thermal conductivity.

Insulating board is made in natural finishes ranging from white to grey and brown, and with varying surface textures—usually slightly stippled. It is obtainable also with various pre-decorated treatments including a smooth white or ivory surface. Many makes are treated after manufacture with one of several flame-retardant treatments giving a Class 1 (the best) surface under the surface spread of flame classification of B.S. 476, Part 1.

Insulating board is used for wall and roof linings and ceilings in all types of buildings, for thermal insulation generally, as a plaster base, permanent shuttering to concrete, underlay to floor coverings, etc.

These treatments fall into three main types—surface treatment with flame-retardant chemicals, surface coating with specially bonded asbestos felt, and impregnation of the board throughout with flame-retardant chemicals.

Where untreated board is specified, on the other hand, tests carried out at the Fire Research Station by the Joint Fire Research Organization of the D.S.I.R., and the Fire Officers' Committee show that normal decorative treatments give improved flame-spread classification. For example, even one coat of distemper or flat oil paint gives a Class 2 surface, while three coats of non-washable distemper—or one coat on sized board—give Class 1, under B.S. 476, Part 1. A $\frac{3}{16}$in skim coat of plaster also gives a Class 1 surface.

Code No.	Brand Name	Sheet Sizes	Thicknesses	"K" value at normal moisture content	Special finishes also available	Weight lb per sq ft	Remarks
30	AHLSTROM	4′ x 6′ to 14′	½″, ¾″ 1″		Ivory faced	½″=0·624	
36	ALPEX	2′ & 4′ x 6′ to 12′	½″, 1″		Ivory faced	0·66	
28	ANKARBOARD	4′ x 6′ to 12′	½″, 1″	0·35			Flame retardant surface treatment available Class I, B.S. 476.
1	BOWATER	2′ & 4′ x 6′ to 12′ 3′ & 3′ 6″ x 8′	½″, 1″	0·35	Witelite	0·72, 1·08	Flame retardant surface treatment available Class I, B.S. 476.
4	B.P.	4′ x 6′ to 12′	$\frac{7}{16}$″	0·39		0·78	Bitumen bonded.
13	BRUNEX	4′ x 6′ to 12′	½″, $\frac{25}{32}$″	0·307	Ground-wood coated surface	0·67, 0·96	
	BRUNEX BITUMEN IMPREGNATED	4′ x 6′ to 12′	½″	0·319		0·67	
2	CELOTEX NATURAL	2′, 3′ & 4′ x 6′ to 12′	½″	0·35	"High-light", i.e. smooth white paint	0·75	Also in bevelled panels and boards.
		4′ x 8′	½″, 1″	0·35		1·13, 1·5	
	CELOTEX F.R.I. BOARD	2′ & 4′ x 6′ to 8′	½″, 1″	0·35		1·03, 1·45	Flame retardant Class I, B.S. 476.
	CELOTEX ROOF INSULATION BOARD	2′ x 4′	½″, 1″, 1″	0·33		0·7, 1·12, 1·4	For use with roof decks.
	CELOTEX SARKING	4′ x 6′ to 8′	½″	0·35		0·7	Top surface treated for water resistance.
26	FIBREX	4′ x 6′ to 12′	½″, 1″	0·33			
11	FINNBOARD	4′ x 6′ to 12′	½″	0·35 (a) (b)	Ivory faced Flamecheck	0·75	(b) Flame retardant Class I, B.S. 476.
	FINNTILES	2′ x 2′	½″, 1″	0·35	Ivory faced	0·75 (½″)	Also ¾″ slotted for fixing systems.
	FINNBOARD PERFORATED	2′ x 8′	½″	0·35	Ivory faced	0·75	
17	FRENIT	4′ x 6′ to 12′	½″, 1″	0·32 (a) (b)	Ivory coated Pebbled	0·65, 1·09	Available bitumen impregnated.
24	HACKMAN	4′ x 6′ to 12′ also tile sizes, bevelled, slotted, etc.	½″, ¾″, 1″	0·303 (a) (b) (c)	Ivory Snow white Sealfire	½″=0·76	(c) Flame retardant Class I, B.S. 476.
26	HALLTEX	4′ x 6′ to 12′	½″, 1″	0·33	Ivory faced & decorative surfaces		
4	HERNITE	2′ & 4′ x 6′ to 14′, 3′ x 8′	½″, 1″	0·38	White painted	0·66, 0·88	Flame retardant surface treatments available. Class I, B.S. 476.
24	HOMANITE	5′ 9″ x 6′ to 12′	½″, 1″		Cream faced		
22	HUNTONIT	4′ x 6′ to 12′ 2′ x 4′	½″	0·32	White pulp coating	0·68	
	HUNTONIT BITUMEN BONDED	4′ x 6′ to 12′ 2′ x 4′	½″, 1″				
	HUNTONIT HUFO	4′ x 6′ to 12′, 2′ x 4′	½″, 1″				Flame retardant surface. Class I, B.S. 476.

Code No.	Brand Name	Sheet Sizes	Thicknesses	"K" value at normal moisture content	Special finishes also available	Weight lb per sq ft	Remarks
6	INSULITE	2′, 3′ & 4′ x 6′ to 14′	½″, ¾″, 1″		"Insulwite" (Decorative white surface)	0·75, 1·12, 1·5	Flame retardant surface treatment available, Class I, B.S. 476.
27	KARLIT	3′, 4′ & 5′ x 6′ to 12′	½″, ¾″	0·36	(a) Parchment faced (b) White painted	0·61, 0·82	Albi-R, Class I or II, B.S. 476 available.
21	LIGNA	4′ x 6′ to 12′	½″, ¾″		Ivory coated		
28	L.W.	4′ x 6′ to 12′	½″, ¾″	0·35	White painted		
26	NIVOLITE	4′ x 6′ to 12′	½″, ¾″, 1″	0·35	Cream faced		
26	NOSTEX	3′, 4′, 4′ 6″ x 2′ to 12′	½″, ¾″	0·32			Also bitumen bonded.
23	ODENBOARD	2′ & 4′ x 6′ to 12′	½″, ¾″, 1″	0·32		0·67, 1·0, 1·33	Also flame retardant Class I, B.S. 476 (Albi-SKK).
5, 26	P.D.	2′ & 4′ x 2′ to 12′	½″, ¾″, 1″	0·35	White face ("P white D")		Also available (natural only) with Pyrestos flame retardant impregnation. Class I, B.S. 476.
7	ROCKHAMMER	4′ x 8′ to 12′	½″			0·66	Also available with flame retardant treatment, Class I, B.S. 476.
3	SUNDEALA	4′ x 6′ to 12′ & 2′ widths	½″, ¾″		Ivory	0·67, 1·0	Several Class I flame retardant treatments available—surface or impregnation.
35	SWANBOARD (1) Light, (2) Dark, (3) Ivory/Dark	4′ x 2 to 12′ (also t. & g. & bevelled tiles)	½″, ¾″, 1″	0·34	(a) white painted—(2) & (3) only (b) printed surface wood grain designs	0·75, 1·12, 1·5	Flame retardant treatment available, Class I, B.S. 476.
11	TENTEST	2′, 3′ & 4′ x 6′ to 12′ 2′ & 4′ sq bevelled tiles.	⅛″, ¼″, ½″, ¾″, 1″	0·35	White prime coated	⅛″ — 0·75	Also asbestos faced both side, flame retardant, Class I, B.S. 476. Also any composition of insulation and hardboard to order.
31	TREETEX	2′ x 2′ & 4′ 4′ x 7′ to 12′ & to order	½″, ¾″	0·38		0·65, 0·85	Flame retardant treatment available, Class I, B.S. 476.
12	TREETEX PROFILED BOARD	4′ x 8′	½″			0·75	Flame retardant treatment available, Class I, B.S. 476.
15	UNABOARD	4′ x 9′ 10″	½″		Decorated (diamond shaped)	0·66	
8, 9, 10	UNITEX	4′ x 6′ to 12′, 3′ x 8′	½″, ¾″	0·35	Integrated ivory surface	0·65, 0·92	Flame retardant treatment available, Class I, B.S. 476, either surface (for ivory faced) or Pyrestos impregnated (for standard board).

Left: Ceilings in the central fingers at Gatwick Airport are of ¾in fibre insulating board with chamfered edges, mounted on a concealed fixing system. Architects: Yorke, Rosenberg & Mardall. Right: The ceilings at Chesterfield College of Technology are of ¾in flame-resistant fibre insulating board, V-jointed, and secured by a concealed fixing system. Architect: County Architect, Derbyshire, F. Hamer Crossley

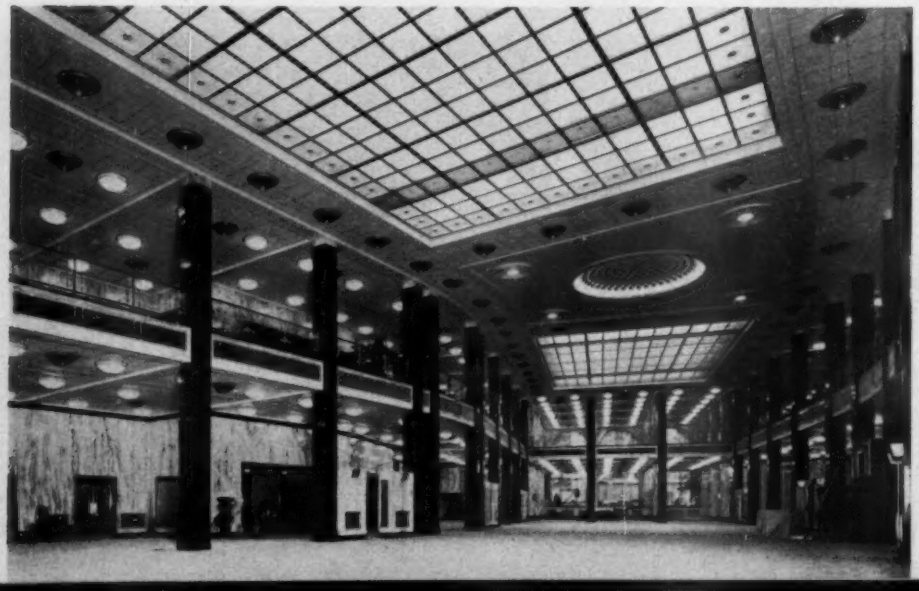
ACOUSTIC BOARD AND TILES

Fibre acoustic board is available in sheet, panel and tile dimensions. It is manufactured in a similar manner to insulating board but is of lower density, or has a perforated or slotted surface or some special feature (frequently patented) designed to increase its absorption of sound.

Acoustic board is widely used for two main purposes. The first is to provide quieter and more comfortable conditions by cutting down reflection and reverberation of sounds, e.g., in restaurants, offices, corridors, hospitals, work rooms, schools, banks, etc. The second purpose is acoustic control or correction in auditoria of all types.

The various acoustic treatments also provide a choice of decorative surface designs which are of interest to the architect and interior decorator. There are several sizes of tiles, often with bevelled edges and plain margins, as well as straight-edged boards with an all-over surface pattern. Various predecorated coatings are available.

Code No.	Brand Name	Sizes	Thicknesses	Weight lb per sq ft	Acoustic Treatment	Special finishes also available	Remarks
2	ACOUSTI-CELOTEX	12″ & 24″ square 12″ × 24″	½″, ⅝″, 1″	1·13, 1·47, 1·71	Regular drilling		Hard white linen finish ⅝″ available grooved and rebated.
28	ANKARBOARD	12″, 16″, 24″ & 32″ square 12″ × 24″, 16″ × 32″ 12″ & 16″ × 6′ to 14′	½″, ¾″		Regular or random drilling	White, washable paint finish	Flame retardant treatment available, Class I, B.S. 476.
1	BOWATER	24″ square	¾″	0.972	Regular drilling	Witelite	Flame retardant treatment available, Class I, B.S. 476.
24	HOMATONE	27·5cm, 55cm, 60cm, 62·5cm, & 24″ square 27·5cm × 55cm	½″, ¾″		Drilled, slotted, etc.	White	
22	HUNTONIT	12″ & 24″ square 12″ × 24″	½″, ¾″		Drilled	(a) Ivory (b) Hufo white paint	Flame retardant, Class I, B.S. 476.
23	ODENWALD	12″ & 24″ square 2′×4′, 6′ & 8′	½″, ¾″, ¾″	0·67, 0·83, 1·0	Drilled or grooved	White, grey, blue, red, green	Available with flame retardant treatment (Albi-SKK), Class I, B.S. 476.
39	PANELWOOD	24″ square	1″	1·5 (including framework)	Drilled	Various colours	Available with flame retardant treatment, Class I, B.S. 476.
37	PERFONIT STANDARD	12″, 48″ & 400mm square 12″ × 24″, 24″ × 48″	¾″	0·88			Available with flame retardant treatment, Class I, B.S. 476. Parchment faced.
	PERFONIT DECOTEX	12″, 48″ & 400mm square 12″ × 24″, 24″ × 4′, also 24″ square	¾″	1·03			Permanently decorated
	PERFONIT POPULAR	12″ & 24″ square 12″ × 24″	⅜″	0·75			
	PERFONIT EXTRA	12″ & 24″ square 12″ × 24″	½″	1·46			Hardboard faced.
	PERFONIT COLOURTILE	12″ & 24″ square 12″ × 24″	⅜″, ½″	0·75, 0·88			
	PERFONIT AGAVEN	12″ & 24″ square 12″×24″	⅜″, ½″	0·75, 0·88			Wood veneered.
	PERFONIT PAXTON	24″ square	⅜″, ½″	0·75, 0·88	Various patterns		Parchment faced.



Acoustic panels measuring 2ft by 2ft and 1ft by 2ft were used as ceiling lining in the new Lloyd's Building, London. This Underwriting Room measures about 340ft long by 120ft wide, the other materials being largely Issorie Green and Arni Vein marbles. Architect: Terence Heysham

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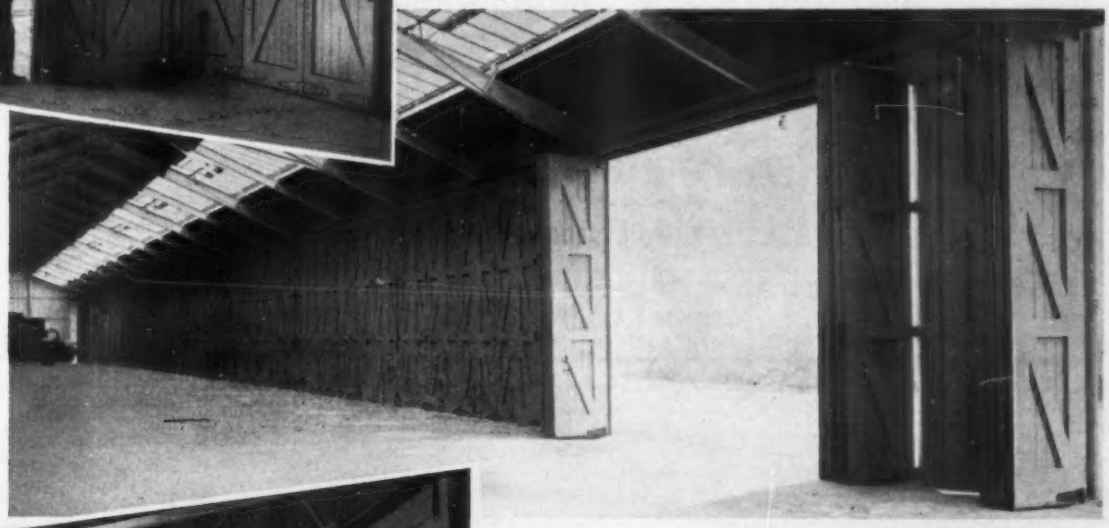
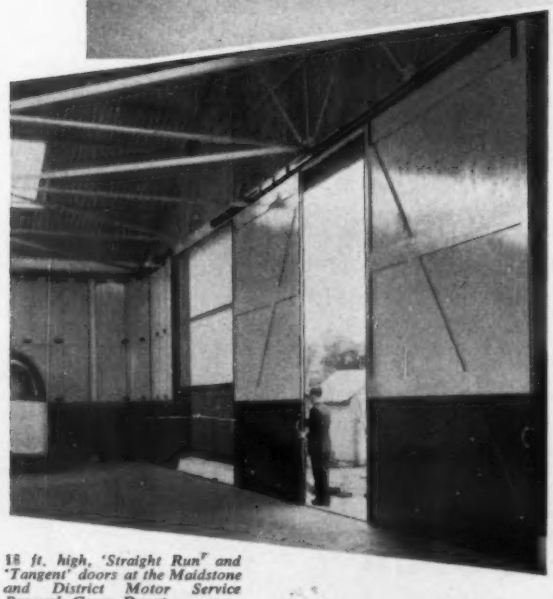


Despatch bays of William Jackson & Son Bakery, Stockton-on-Tees. Opening 84 ft. wide overall.



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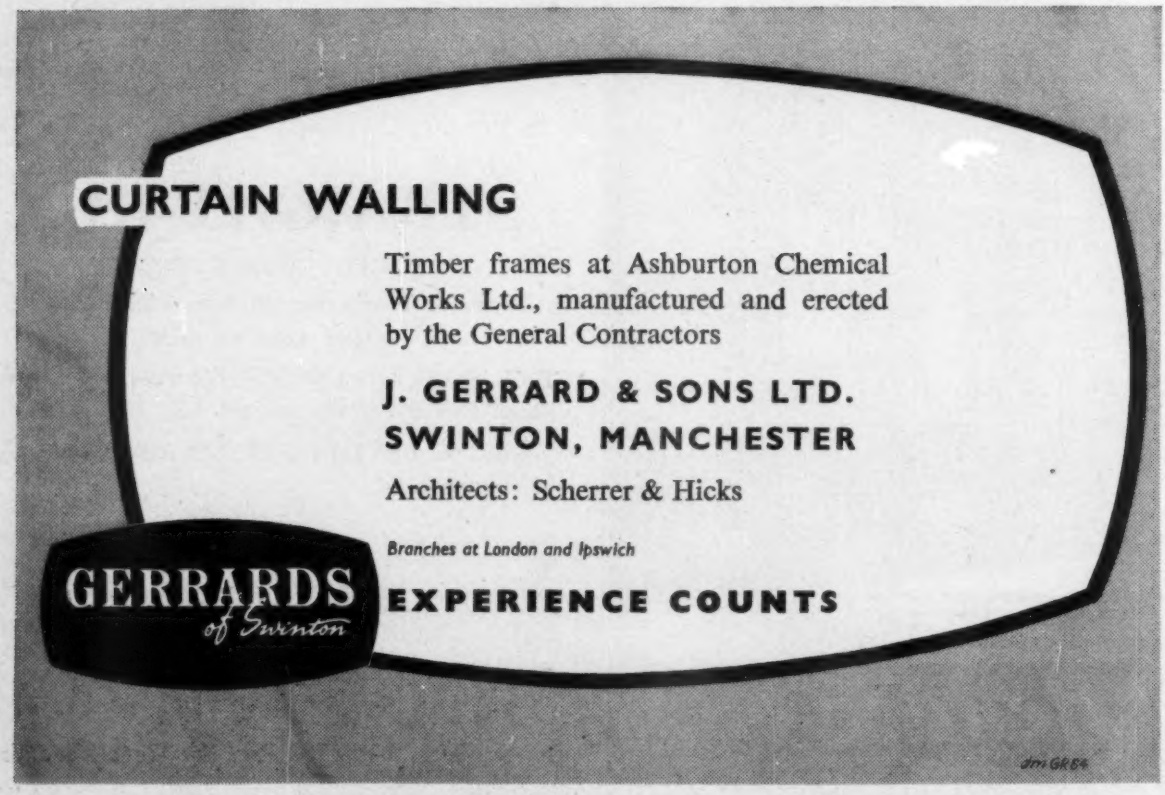
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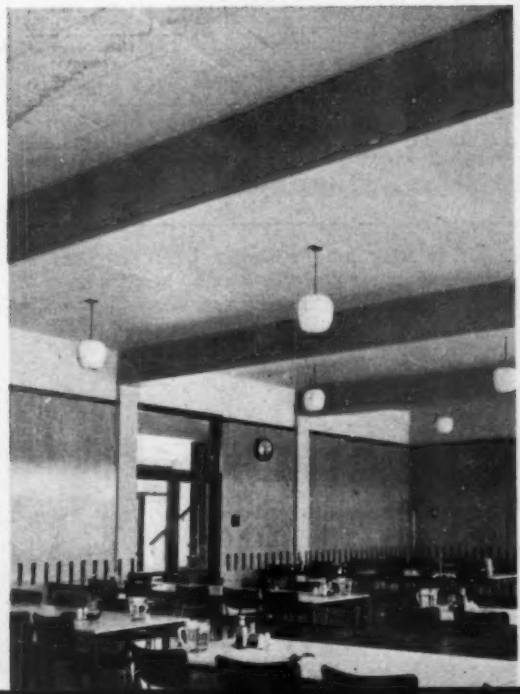
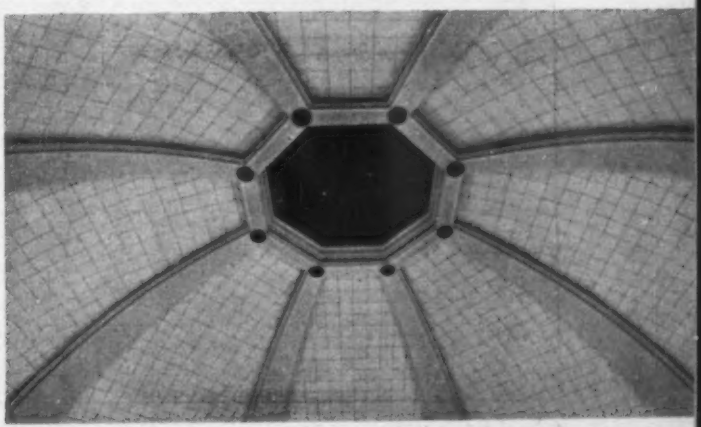
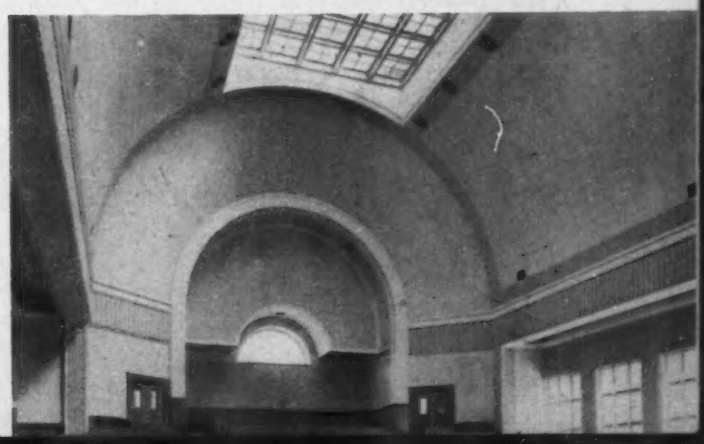
ACOUSTIC BOARD AND TILES

Code No.	Brand Name	Sizes	Thicknesses	Weight lb per sq ft	Acoustic Treatment	Special finishes also available	Remarks
11	RABBIT WARREN	24" & 48" square 4' x 8'	1" nominal	2·12	Grooved fibreboard, hardboard back, perforated hardboard face	Lacquered or veneered to order	
26	SONTEX	12" x 12", 24", 48"	½"		Grooved		
3	SUNDEALA	12" & 24" square	½", ¾"	0·67, 1·0	Cubed or slotted	Ivory	Available with flame retardant treatment, Class 1, B.S. 476.
11	TENTEST PERFECTILES	12" & 24" square 12" x 24"	½", ¾" & ¾"	0·75, 1·25, 1·28	Drilled	White Prime coated	
12	TREETEX TREETAC	16" & 24" square	¾"	0·94	Slotted		Available with flame retardant treatment, Class 1, B.S. 476.
	TREETEX DECORAC	16" & 24" square	¾" & 1"	0·94, 1·12	Slotted		Available with flame retardant treatment, Class 1, B.S. 476.
	TREETEX TREEPERAC	12", 16", 24" square 4' x 8'	¾" & 1"	0·94, 1·12	Channelled & drilled (including varied perforations)		Available with flame retardant treatment, Class 1, B.S. 476.
	TREETEX TREEPERAC HT	15⅞" square 4' x 8'	⅜", ½"	1·19, 1·5	Channelled & with perforated surface		Available with flame retardant treatment, Class 1, B.S. 476.
	TREETEX SLOTAC	16" & 24" square 4' x 8'	½", ¾"	0·69, 0·94	Parallel slots (24" tiles also with margins)		Available with flame, retardant treatment Class 1, B.S. 476.
	TREETEX SLOTAC 125	24" square	1"	1.75	Slotted, channelled & perforated		Available with flame retardant treatment, Class 1, B.S. 476.
	TREETEX PERFOTEX	16" square 4' x 8'	¾"	0·69	Perforated through		Available with flame retardant treatment, Class 1, B.S. 476.
8, 9, 10	UNITEX ACOUSTILE	12", 18", 24" square 12" x 24"	½", ¾", ¾"	0·66, 0·8, 0·9	Drilling—regular, random or mosaic. Also trenched	White primed Colour primed Colour painted	Available with flame retardant treatment, Class 1, B.S. 476.
	UNITEX FORMBOARD	4' x 2' to 8'	½", ¾", ¾"	0·55, 0·8, 0·9	Regular drilling	White primed Colour primed Colour painted	Available with flame retardant treatment, Class 1, B.S. 476.

Below: Staff canteen at the Metal Agencies Co. Ltd., Winterstoke Road, Bristol, 3. Ceiling of acoustic tiles with sheets of fibre insulating board as borders. Top right: 1ft sq acoustic tiles at Airdrie Academy, Lanarkshire. Bottom right: Acoustic lining of 1ft by 2ft panels at First Church of Christ Scientist, Clifton Street, Glasgow





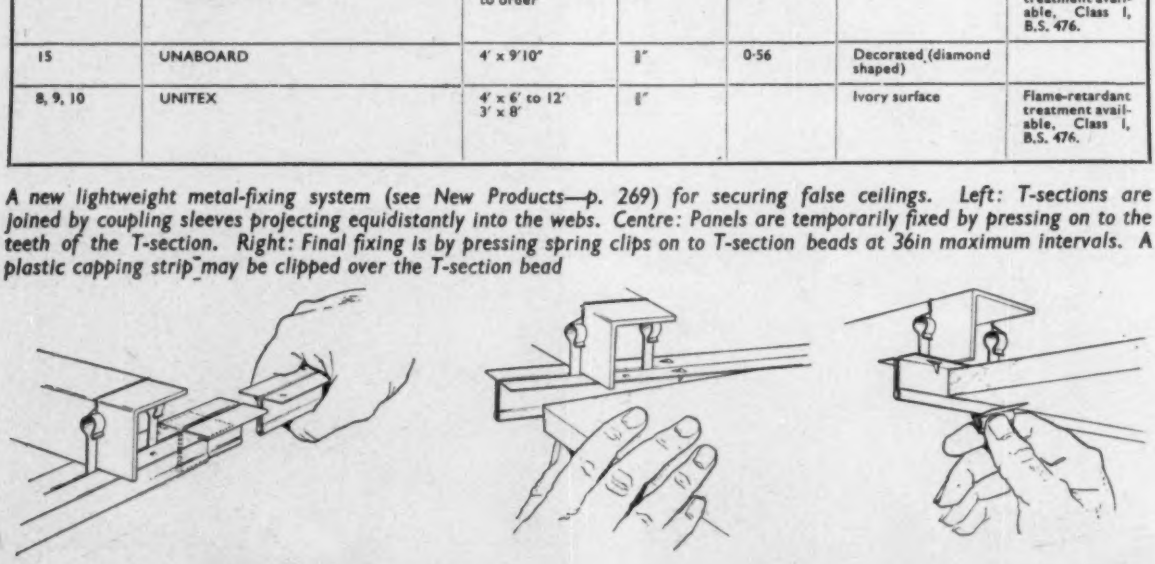


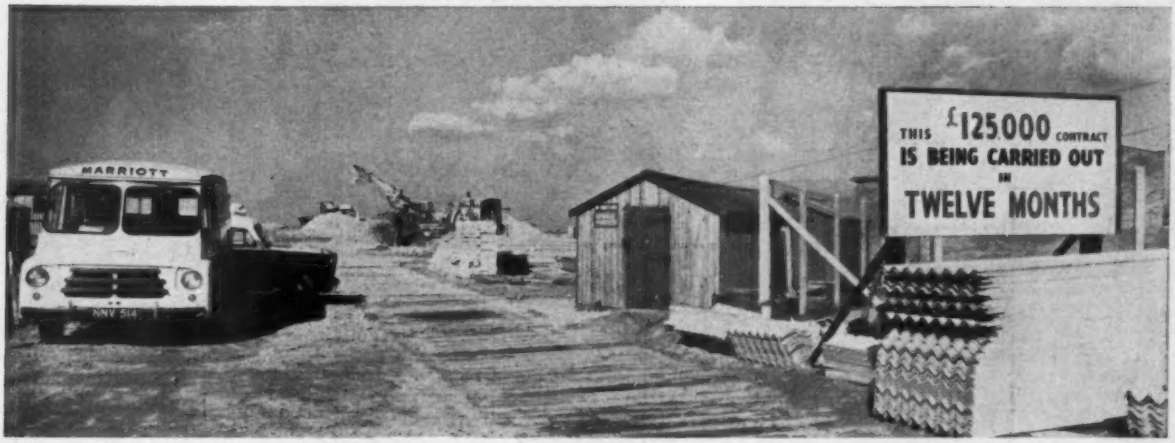
WALLBOARD

Wallboard, also called building board, is similar in texture and finish to insulating board, but is thinner and thus more inexpensive. The usual thickness is $\frac{3}{8}$in or $\frac{1}{2}$in and the density, again determined by British Standard, is not greater than 30lb per sq ft. Uses are generally the same as for insulating board but where the greater thickness is not necessary.

Code No.	Brand Name	Sheet sizes	Thicknesses	Weight lb per sq ft	Special finishes also available	Remarks
30	AHLSTROM	4′ x 6′ to 14′	$\frac{1}{2}$″		Ivory faced	
36	ALPEX	2′ & 4′ x 6′ to 12′	$\frac{1}{2}$″		Ivory faced	
13	BRUNEX	4′ x 6′ to 12′	$\frac{1}{4}$″ & $\frac{1}{2}$″	0·43 & 0·51	Groundwood coated surface	
2	CELOTEX UTILITY	4′ x 8′ to 12′	$\frac{1}{4}$″	0·50	"Highlight" i.e., smooth white finish	
	CELOTEX BUILDING BOARD	4′ x 8′ to 12′	$\frac{1}{2}$″	0·57	"Highlight", i.e., smooth white finish	
	CELOTEX ROOF INSULATION BOARD	2′ x 4′	$\frac{1}{2}$″	0·56		For use with roof decks.
26	FIBREX	4′ x 6′ to 12′	$\frac{1}{4}$″ & $\frac{1}{2}$″			
17	FRENIT	4′ x 6′ to 12′	$\frac{1}{4}$″	0·45	(a) Ivory coated (b) Pebbled	Available bitumen impregnated.
24	HACKMAN	4′ x 6′ to 12′	$\frac{1}{4}$″ & $\frac{1}{2}$″		(a) Ivory, (b) snow white, and (c) Sealfire (flameproofed)	(c) Class I, B.S. 476.
26	HALLTEX	4′ x 6′ to 12′	$\frac{1}{4}$″		Ivory-faced and decorative surfaces	
4	HERNITE	2′ & 4′ x 6′ to 14′ 3′ x 8′	$\frac{1}{2}$″	0·44		
22	HUNTONIT	4′ x 6′ to 12′	$\frac{1}{4}$″	0·47		Flame-retardant Class I, B.S. 476, available.
6	INSULITE	2′, 3′ & 4′ x 6′ to 14′	$\frac{1}{4}$″	0·45	"Insulwite" decorative white surface	Flame-retardant Class I treatment available.
27	KARLIT	3′, 4′ & 5′ x 6′ to 12′	$\frac{1}{2}$″	0·4	(a) Parchment faced (b) White painted	Albi-R, Class I or II, B.S. 476, available.
21	LIGNA	4′ x 6′ to 12′	$\frac{1}{2}$″			
26	NIVOLITE	4′ x 6′ to 12′	$\frac{1}{4}$″ & $\frac{1}{2}$″		Cream faced	
26	NOSTEX	3′, 4′ & 4′6″ x 2′ to 12′	$\frac{1}{4}$″ & $\frac{1}{2}$″			Also bitumen bonded.
23	ODENBOARD	2′ & 4′ x 6′ to 12′	$\frac{3}{8}$″, $\frac{1}{4}$″, $\frac{1}{2}$″	0·34, 0·42, 0·5		
526	P D.	2′ & 4′ x 2′ to 12′	$\frac{1}{2}$″		White face ("P white D")	Also available (natural only) with Pyrestos fire retardant impregnation, Class I, B.S. 476.
35	SWANBOARD (1) Light (2) Dark (3) Ivory/dark	4′ x 2′ to 12′ (also t. & g. and bevelled tiles)	$\frac{1}{4}$″ & $\frac{1}{2}$″	0·46, 0·56	(a) White painted—2 and 3 only (b) Printed surface wood grain designs	Flame-retardant treatment available, Class I, B.S. 476.
31	TREETEX (Porous Board)	4′ x 7′ to 12′ and to order	$\frac{1}{2}$″	0·49		Flame-retardant treatment available, Class I, B.S. 476.
15	UNABOARD	4′ x 9′10″	$\frac{1}{2}$″	0·56	Decorated (diamond shaped)	
8, 9, 10	UNITEX	4′ x 6′ to 12′ 3′ x 8′	$\frac{1}{2}$″		Ivory surface	Flame-retardant treatment available, Class I, B.S. 476.

A new lightweight metal-fixing system (see New Products—p. 269) for securing false ceilings. Left: T-sections are joined by coupling sleeves projecting equidistantly into the webs. Centre: Panels are temporarily fixed by pressing on to the teeth of the T-section. Right: Final fixing is by pressing spring clips on to T-section beads at 36in maximum intervals. A plastic capping strip may be clipped over the T-section bead





A clean site and a clear statement of purpose are hallmarks of the start of a Marriott job.

MARRIOTTS OF THE MIDLANDS BUILD–

£125,000 school in 12 months

A view of the new gymnasium of the Icknield Secondary Modern School at Luton.

The main Assembly Hall of the new building looking down from the stage.

Architects: The Luton Borough Architect

THE £125,000 contract for a new wing of the Icknield Secondary Modern School at Luton was commenced on January 1st, 1958. The job was completed precisely 12 months later as contracted, and as announced on the notice board placed on the site the day work commenced.

The confident announcement of the time schedule in this way is symbolic of the policy of Robert Marriott Limited. The job is to be done on time, and be done well.

To achieve this type of result Marriotts have today established an organisation comparable to that of any national firm of contractors. The company's work is, however, confined to within a reasonable radius of Rushden, Northamptonshire. Thus there is direct control of local labour resources, and of the work: two factors that reflect in economy in cost, and in the quality of the work.

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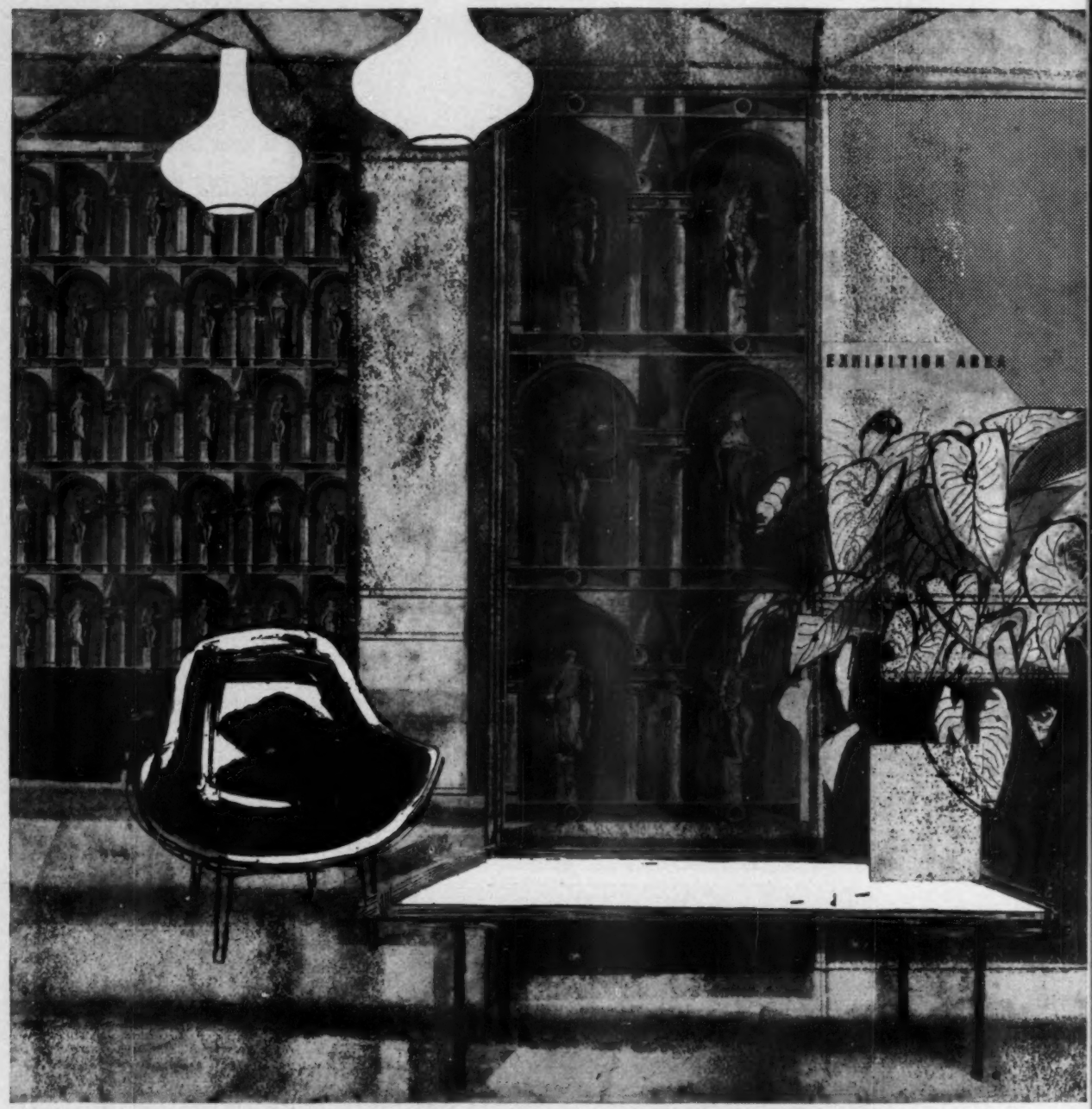

WPM MORTIMER STREET

The Architects' Department, formerly at 125, High Holborn, W.C.1,
has been reopened in the Company's new London premises at 19/21, Mortimer Street, W.1.
You are invited to visit our spacious showroom on the 1st Floor and to make use of the improved facilities of our special advisory service.
Our artist Edward Hughes depicts Palladio wallpaper "Montacute" No. 44343 as used in the showroom.

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THE ARCHITECTS' DEPARTMENT
THE WALL PAPER MANUFACTURERS LIMITED
19/21 MORTIMER STREET LONDON W1
OR KING'S HOUSE KING STREET WEST MANCHESTER 3

WPM

Industrial Notes

● Two contracts, together worth over £900,000, have been awarded to the Mitchell Construction Co. Ltd. by the Central Electricity Generating Board. The first, which is due for completion during 1960, is for preliminary works and site preparation at Thorpe Marsh power station, near Doncaster. The second project is for the construction of four reinforced concrete hyperbolic cooling towers and ancillary works at Skelton Grange "B" power station, near Leeds. Sir Alexander Gibb & Partners are consulting engineers for both schemes.

● 4-D Associates Ltd. have moved to new offices at Windsor House, Kingsway, London, W.C.2 (telephone: Chancery 2523).

● The meeting entitled "Domestic Refrigeration", which was to have taken place at the Housing Centre Trust, 13 Suffolk Street, Haymarket, London, S.W.1, on February 24, 1959, has been postponed. It will now take place at the Centre, under the title "Space Planning in the Kitchen", at 6 p.m. on Tuesday, April 7, 1959. The speaker will be Miss Mary George, the president of the Electrical Association for Women.

● A new association, the Electrical Floor Warming Association (E.F.A.), has recently been formed. It is open to all manufacturers who offer a complete floor-warming system and a design service. The objects of the new body are to improve the standards of floor-warming, to represent the interests of members and users, to establish liabilities to users (other than guarantees), to exchange technical information involving broad principles, and the discussion of common interests. Member firms include: Aerialite Ltd., Calidec Ltd., Panelec (Gt. Britain) Ltd., Pyrotenax Ltd., Simplex Electric Co. Ltd., Thermodare (Gt. Britain), Tyrad Electric Ltd., and Wandleside Cable Works Ltd. Mr L. C. Green is acting chairman, and the address of the new association is 94/98 Petty France, London, S.W.1 (telephone: Abbey 6586).

● Mr. John Acton, M.SC., A.R.I.C., has been appointed new products manager by Midland Silicones Ltd. He will be responsible for the launching and marketing of all new silicone or silicone-containing products developed by the company.

● Mr. H. W. Secker has been appointed a director and chairman of The Ketton Portland Cement Co. Ltd. Mr Rawson F. Stagg has been appointed managing director of the same company and also chairman of The Shap Granite Co. Ltd. Other appointments within the Ward Group include that of Mr. Arnold Carr, deputy chairman of Thos. W. Ward Ltd., as chairman of the three Ward subsidiary companies, Thos. Smith & Sons (Rodley) Ltd., John Smith (Keighley) Ltd., and Widnes Foundry & Engineering Co. Ltd.

● Crompton Parkinson Ltd. have reduced the prices of their Whitelight and 150W rating Charmlight lamps. 150W Charmlight lamps are reduced from 3s 9d to 3s 4d each; 40W and 60W Whitelight lamps from 2s 5d to 1s 11½d each; and 100W Whitelight lamps from 2s 10½d to 2s 6½d each.

● Mr. George A. Williamson, M.I.MECH.E., director of engineering of the Firestone Tyre & Rubber Co. Ltd., has retired.

● The publicity department of Electrolux Ltd. has now moved to new offices at 419 Oxford Street, London, W.1 (telephone: Hyde Park 1616).

● Whilst the offices of their associated company, Protim Ltd., are being moved to the City, Sir John Gallwey & Partners Ltd. and their Gallwey Protim Eradication Service will continue to operate from their old address at 356-368 Evelyn Street, London, S.E.8 (telephone: Tideway 4611).

REVIEW OF THE YEAR

The London address of Stuart's Granolithic Co. Ltd., quoted in their advertisement on p. 119 of our issue of January 28, 1959, should be altered to read as 14 College Road, Harrow, Middx (telephone: Harrow 6161/2).

No. 1 reactor of Berkely Nuclear Power Station which is being built by the A.E.I.—John Thompson Nuclear Energy Co. Ltd., showing the grouping of five of the eight boilers around the reactor. All eight boilers have now been erected around No. 1 reactor. After nearly two year's work, the Station is nearly half way towards completion

NEW PRODUCTS

In this feature are reviewed new lines introduced to the building industry for the first time and additions or improvements to existing ones. Any advantages claimed for a product are from information supplied by the manufacturer

Overhead Door Gear (A)

The latest addition to the Ultra range of overhead door gear is Set 140, which enables doors to be used which vary in height from 5ft 11in to 6ft 6in and in weight from 40lb to 140lb. Advantages claimed for Ultra overhead gear are: spring adjustment for simple, positive action; galvanized side tracks; quiet-moving nylon wheels; minimum head and side room required; no projection when the door is open; efficient locking apparatus; and simplicity in fixing and operation. Price: £10 18s 9d, including weatherstrips and door stops. All timber standard size doors and frames, complete with gear, are available for a price of less than £19. The Ultra range now covers doors from 5ft 11in to 7ft 6in high and from 40lb to 210lb in weight.

P. C. Henderson Ltd., Harold Hill, Romford, Essex. Ingrebourne 41111.

Readers' Information Service, Ref. A. Date 25/2/59.

★

New Plastic Canopy (B)

A canopy made of transparent, heavy-gauge Bexthene film (a product of BX Plastics Ltd.) has proved a practical method of all-weather site protection at the new L.C.C. Warnham Court Estate, near Horsham. It enabled work to be carried out in dry comfortable conditions and without delays due to bad weather. The canopy can be stretched lightly across one to three ridge poles and raised by a simple pulley system attached to the scaffolding framework. The only departure required from normal building operations is the erection of the scaffolding before foundation work begins. Anchorage is by means of heavy cardboard strips attached to the edges of the canopy, but alternative methods of fastening are available. Further sheets of Bexthene can be fitted at each end of the canopy to enclose the site completely. It is claimed that Bexthene will stand up well to repetitive use and rough handling, remains flexible at very low temperatures, and is unaffected by water. Canopies of all sizes can be supplied by H. Fine & Son Ltd. The standard kit measures 70ft by 48ft and costs £88.

H. Fine & Son Ltd., Vale Royal, York Way, King's Cross, London, N.7.

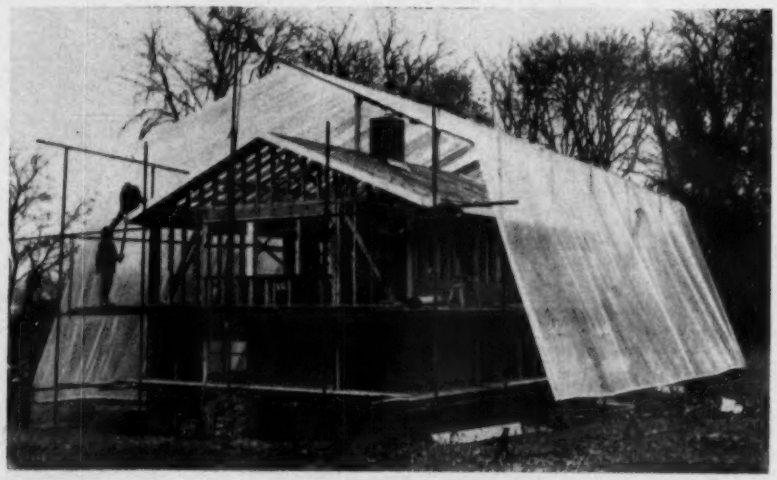
B.X. Plastics Ltd., Higham Station Avenue, Chingford, London, E.4.

Readers' Information Service, Ref. B. Date 25/2/59.

★

Coloured Cork Tiles

This company has produced what is claimed to be the first range of coloured cork tiling to be manufactured for the home market. Twenty-five different variations are initially available in either plain colours, coloured marble effects, or natural cork backgrounds with single- or double-marbled colour patterning. The coloured and marbled effects are integral throughout the full thickness of the tiles. The standard of quality and density is the same as in the makers' standard range of natural-shade tiling. It is expected that the coloured cork tiling will be widely used in traditional and contemporary decorative schemes in public buildings, hospitals, business premises, hotels and the home. Although cork tiling is primarily used as a floor finish, this new development opens considerable scope for its use as wall panelling to either dado or ceiling height and



B

A

special thicknesses of 3/32in and $\frac{1}{8}$in are produced for this purpose. Standard sizes: 12in by 12in and 9in by 9in. Standard thicknesses: $\frac{3}{16}$in, $\frac{1}{4}$in and $\frac{5}{16}$in. A leaflet, showing the full colour range, is available but the reproductions of colour in this publication do not do justice to the beauty of colour obtained in the actual tiles themselves. The manufacturers, therefore, welcome interested architects at their London showrooms or, alternatively, will send samples of the tiles on request.

Robinson Bros. Cork Growers Ltd., 54/62 Regent Street, London, W.1. Gerrard 3965.

Readers' Information Service, Ref. C. Date 25/2/59.

★

Flame-retardant, Decorative Paint for Insulation Board

This company has developed a new type of flame-retardant paint for use on fibreboard. The paint is of the emulsion type and it is claimed that fibre insulation boards of the plain and perforated types, with surfaces treated with Trerock, can be raised to a Class I surface of very low flame spread. Trerock is claimed to provide a better decorative finish than other existing flame-retardant paints besides giving a permanent protective surface to the fibreboard. The new paint can be applied by brush, spray or roller and overpainting is stated to be easy. It is available in a range of 20 shades, dries to a matt finish, is moisture-resistant and washable. Other claims on behalf of Trerock are that it is non-corrosive, non-toxic, non-hygroscopic, resistant to fungus and not injurious to the skin. In addition, after fire there is no blistering or blackening of Trerock treated surfaces. The paint has already passed flame-spread tests at the Joint Fire Research Laboratories and a certifi-

Take **ASTOS** the dampcourse

—for permanence, for a toughness that withstands vibration and normal foundation settlement, for easy identification on site. ASTOS, Standard or lead-lined, the original asbestos/bitumen dampcourse, complies with the British Standard requirements (B.S. No. 743, 1951). 24 ft. rolls, in wall widths up to 36 in. Standard (Type 5C) 7-lb. per sq. yd. Lead-lined (Type 5F) 9½-lb. per sq. yd.

Take Zylex Slaters' Felt as a secondary roof under tiles or slates, to prevent damage due to roof defects, to reduce heat loss. Reinforced Zylex for open rafters, Standard for boarded roofs, and Aluminium Foil Surfaced for even greater reduction of heat loss.
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ZA 461

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A MOVIE MOGUL'S LIGHTER

Every half hour he reaches forward to light a fresh Havana* and in so doing shifts his not inconsiderable weight ("damn quacks always trying to make me give up this and that") forwards once, and backwards once.

The strain imposed on the legs of his chair would long since have worn holes in the floor covering, had he not, in the impoverished days before his first million, had the foresight to invest in Runnymede Rubber flooring; which is more than a match for a movie mogul's cigars.

* *Keen students of sociology will note the "nouveau riche" habit of lighting a cigar with a lighter, not a match.*

The quality of Runnymede Rubber is equalled only by the authenticity of Runnymede advertising . . .

RUNNYMEDE RUBBER COMPANY LIMITED
6 Old Bailey, London, EC4. *Telephone: CITy 2471*

NEW PRODUCTS (continued)

cate has been issued to show that its application raises plain fibreboard to a Class I surface in accordance with B.S. 476:1953.

Pearl Varnish Co. Ltd., Treforest Industrial Estate, Pontypridd, Glamorgan, South Wales.

Readers' Information Service, Ref. E. Date 25/2/59.

★

New System for Fixing Insulation Panels (F)

The Grecon light-weight metal-fixing system provides a method of securing a continuous under-lining of expanded Polystyrene or similar insulation panels of up to 1in thickness, to inclined and horizontal, including dropped ceilings, to solid walls and partitions. It is based on 9ft lengths of galvanized steel slotted T-sections which are wired to metal purlins irrespective of sections, or nailed to wooden purlins or walls and solid partitions. The panels can then be secured by spring clips to the sections. A ¼in hole should be drilled through the web of the T-section just below the flange and 4in from one end. Two saw cuts should be made into this hole and the right-angle V-piece removed. The T-section can then be bent around the V to fit securely into the angle between the roof and the side of the building at the eave. T-sections at ridge crossing should be similarly treated. The metal should be pressed downwards to form "teeth" at all pre-cut positions on the T-section flanges. Hangers slide into the open T-section web and two are required for each section with steel structural member. A piece of wire long enough to pass round the structural member and through the eye of the opposite hanger should be fastened to the eye of *one* of each pair of hangers (illustration top). The T-section should be offered up to the structure, hangers uppermost, and with the flanges held firmly against the lower edge or face of each supporting member, secured *at right angles* at the intersections by passing the wires round the members, and tied to the opposite hanger eyes. The short "leg" of the T-section should be supported below the V either by wiring or by driving a clout nail through one of the pre-drilled holes in the flanges.

A number of T-sections should be fixed in this manner, with the ends joined by means of coupling sleeves. 2ft should be allowed between rows.

The panels should be temporarily fixed by pressing them on to the teeth. Final fixing is by pressing the spring clips (illustration underneath) on to the T-section bead at not more than 36in intervals.

One Grecon pack, which contains all the necessary components for the covering of a 50 sq yd area, costs £10. See p. 266 for fixing details.

Grecon Systems Ltd., 29 St. James's Street, London, S.W.1.

Readers' Information Service, Ref. F. Date 25/2/59.

F

★

Hand Cleanser Dispenser (G)

The new Spenso dispenser for hand cleansing material has been produced for use in factory washrooms. It consists of a bracket which should be plugged to the wall and which holds a one gallon tin of cleanser. The pump unit clips on to the bracket and goes down over the lip of the can. It should be tightened into position and is claimed to be drip-proof. A dipstick is supplied so that the contents of the can may be checked. It is stated that the Spenso costs less than half the price of a normal dispenser.

Deb Chemical Proprietaries Ltd., Forfar Chemical Works, Belper, Derbyshire. Belper 714.

Readers' Information Service, Ref. G. Date 25/2/59.

G

★

Sliding Draining Board (H)

The Leisure double bowl Culsynk unit can now be supplied with a sliding removable draining board. The board is fitted with nylon slides, measures 20½in by 15in, and can be slid from side to side to cover either bowl. It is available with Leisure unit BF21/42, which measures 42in by 21in by 36in. Both bowls measure 18in by 14in, one being 6in deep and the other 10in. Price—£31 8s 6d. Another model, with the same measurements except that both bowls are 6in deep, can be fitted with the new draining board. Price—£31 1s.

Leisure Kitchen Equipment Ltd., 149 Regent Street, London, W.1.

Readers' Information Service, Ref. H. Date 25/2/59.

★

New Grade Cork Tiles

Medium-density hard-wearing cork tiles, weighing 30lb/cu ft, have recently been added to the Chingford range of floor tiles. They are known as Grade M.D. tiles and are suitable for all general purposes, although, where traffic is likely to be heavy, the company recommends the use of their heavy density tile. The standard size of tile is 11½in by 11½in, giving a coverage of 9·8 tiles per sq yd. The M.D. tile is made in four thicknesses, i.e., $\frac{3}{16}$in, ¼in, $\frac{5}{16}$in and ⅜in. Respective prices for these thicknesses are 10s 9d, 12s 9d, 14s 9d and 17s 9d per sq yd for 50 to 200 sq yd. A reduction of 3d per sq yd is made for quantities over 200 sq yd. Tiles can be supplied tongued and grooved for 1s 3d per sq yd extra in $\frac{5}{16}$in thickness and above. Covings, 4in by 1in nominal, cost 1s 6d per ft run. Other sizes and thicknesses can be supplied to order.

Cork Manufacturing Co. Ltd., Langite Works, London, E.4.

Readers' Information Service, Ref. I. Date 25/2/59.

H

NEW PRODUCTS (continued)

New Spray Gun Nozzles (J)

This company has recently introduced two new nozzles for use with their L200 model 2 spray gun. They are intended for use under conditions calling for low-pressure spraying, for instance, where exhaust facilities are inadequate and overspray must be reduced to a minimum. The two nozzles have already been tested operationally and the A9P model, when spraying railway waggons in an open shop, applied a full coat of grey primer at speeds approaching 140 sq ft in 1¼ minutes. This nozzle set-up has also been used for spraying van body interiors and in this instance a stoving synthetic at 30 seconds viscosity was applied to an area of about 120 sq ft in three minutes. The other new nozzle, the A8P, has been used in conjunction with a red oxide primer with pressures reduced to 7 p.s.i. on the pressure container and an atomising pressure of 30 p.s.i. It is an alternative to the A9P, the choice of nozzle being dependent upon the type of material being sprayed. Both nozzles cost 15s each plus 20 per cent.

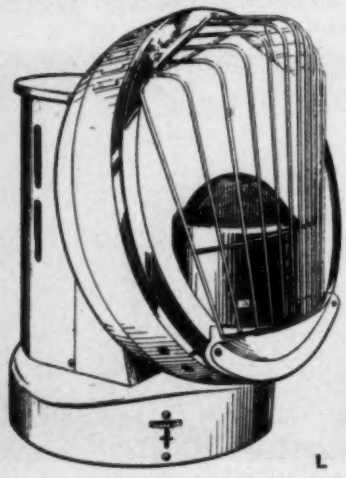
Alfred Bullows & Sons Ltd., Long Street, Walsall, Staffs. Walsall 5401.

Readers' Information Service, Ref. J. Date 25/2/59.

★

New Draughting Instrument (M)

The latest addition to the Triangle range of products is the Arcrola draughting instrument which will calculate and produce accurate arcs of extensive radii from 4ft to 240ft in a matter of seconds. The Arcrola should be of interest to most drawing offices but more particularly to architects, constructional engineers, shipbuilders, aero-designers, exhibition stand and shopfitters, and heating engineers. The instrument measures 29in when fully extended, has a ball-bearing pencil holder and is supplied with five master discs. Assuming, for example, that an arc with a radius of 221ft 4in is to be drawn, the disc marked 120ft to 241ft should be selected from the master set and fitted to one end of the instrument. The telescopic scale should then be pulled out to the graduation marked 221ft 4in and then locked by the finger screw. The two discs should then be placed on the radius line, the weight-loaded pencil positioned, and the instrument rolled gently forward to produce a clearly drawn arc of any length, including a complete circle. It can be used on any reasonable surface from a drawing board to a floor. Weight: 1¾lb. Price: £22.



L

Triangle Products Ltd., Manchester Road, Hyde, Cheshire.

Readers' Information Service, Ref. K. Date 25/2/59.

★

Paraffin Burning Heater (L)

One of the latest additions to this company's range of paraffin burning appliances is the Bialaddin radiant heater. This new item has a stainless steel burner which gives a maximum output of 10,000 B.Th.U./hr. The heater has a large reflector and is guarded in accordance with B.S. 1945 requirements. The Bialaddin is very stable and can easily be levelled if required. The control is finger-tip operated and regulates the fuel as required. Burning time: 8hrs max. Capacity: ½ gall. Colour finish: coffee. Delivery: May, 1959. Price: £9 8s 6d, plus £2 1s 4d (purchase tax).

J

Aladdin Industries Ltd., Aladdin Building, Greenford, Middx.

Readers' Information Service, Ref. L. Date 25/2/59.

★

New Plastic Sheeting

Three new additions have been made to the range of Undulite Fibreglass reinforced plastic sheeting. A 1in reeded sheet, intended chiefly for decorative purposes in hospitals, hotels, offices and restaurants, is being marketed in standard weights. It can be supplied either clear or diffused and in 11 standard colours. Secondly, an additional width of Undulite is being produced in standard ranges to match 3in metal corrugation, particularly for the new Cellactite width of 34½in. The third newcomer is a new sheeting to match Turners' Asbestos Combined Sheeting and it is being made in normal grades. It will be available in lengths from 4ft to 6ft.

M

Dexion Ltd., Maygrove Road, London, N.W.6.

Readers' Information Service, Ref. M. Date 25/2/59.

★

Silver Burnishing Machine (N)

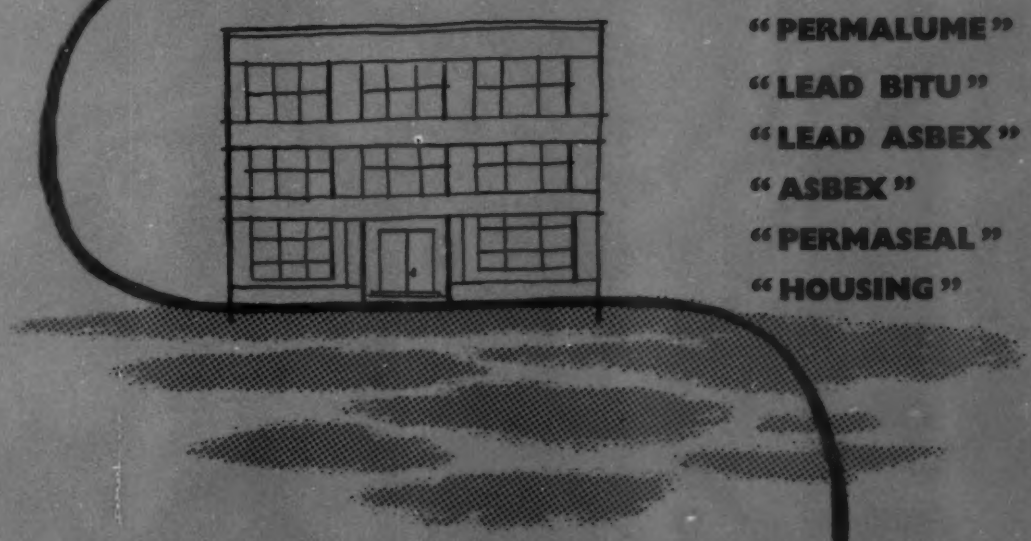
A new machine for polishing canteen and restaurant silverware is now available on short delivery. It is the Mora, model A3, machine which takes 350/400 pieces of cutlery, or dishes and pots up to 10 in maximum dia. in a rubber-lined drum. This drum is driven and rotated by means of a ¼ h.p. electric motor operating through a wormgear and situated at the right-hand side of the tank which contains the drum. The motor is covered by a table top and the drum and tank are covered by a glass fibre safety cover which is electrically interlocked with the starter to prevent the operation of the machine whilst the operating drum is exposed. The drum contains a mass of highly polished steel balls to which hot soapy water should be added before rotation begins. It is claimed that a really brilliant polish is given to the silverware whose resistance to re-tarnishing is increased as a result of the process. The A3 is for use on A.C. supplies only and is supplied with tank available in either stainless steel or galvanized finish at respective prices of £268 and £240. Interior dimensions: 28in by 10in. Floor space: 50in by 30in.

Imperial Machine Co., Victoria Works, Edgware Road, London, N.W.2. Gladstone 2802.

Readers' Information Service, Ref. N. Date 25/2/59.

N

PERMANITE



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In this house, timber has been used for part of the structure and for cladding, providing a dwelling suitable to its surroundings and for modern living.

ARCHITECT: Leslie and Peter Barefoot

FINISHES: Vertical tongued and grooved boarding on timber frame and timber windows.

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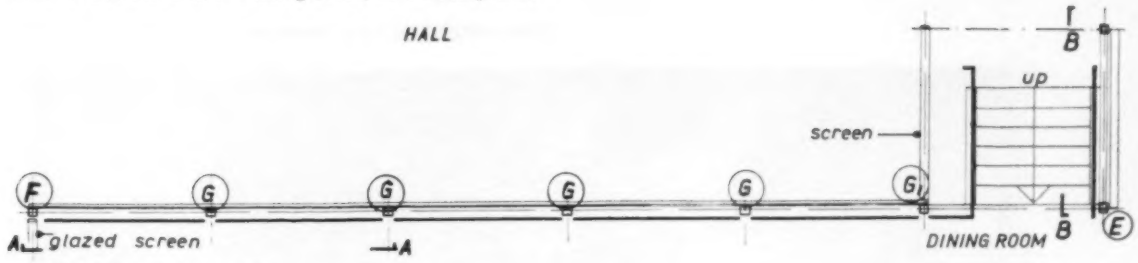
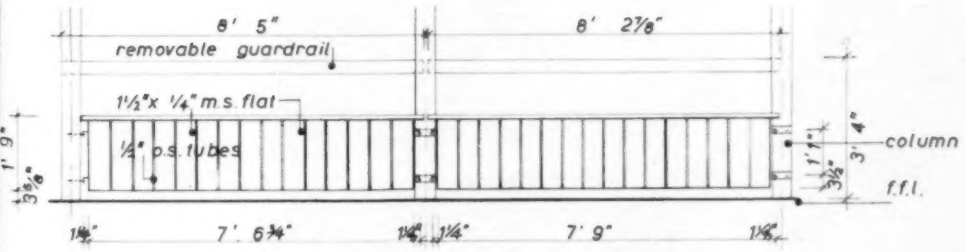
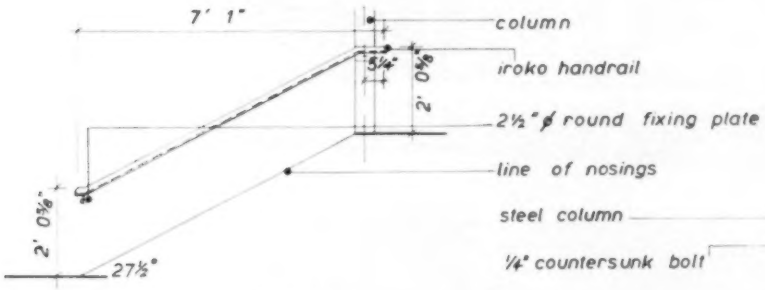


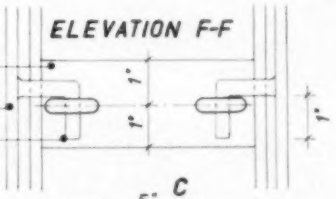
PLAN 1/8"- 1' 0"

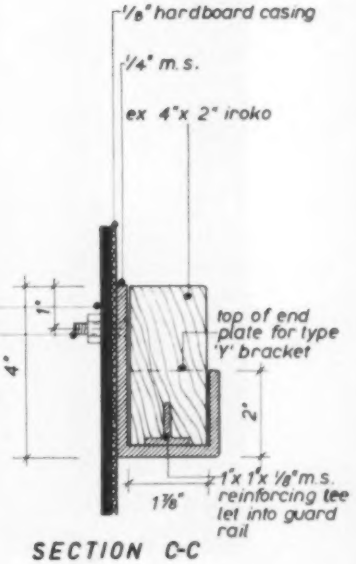


PART ELEVATION A-A 1/4"-1' 0"



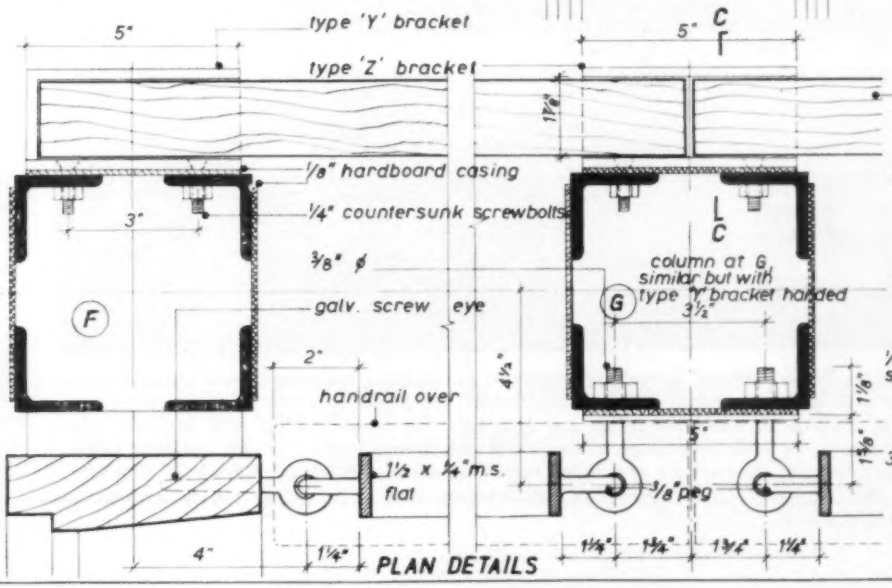
ELEVATION B-B 1/4"-1' 0"





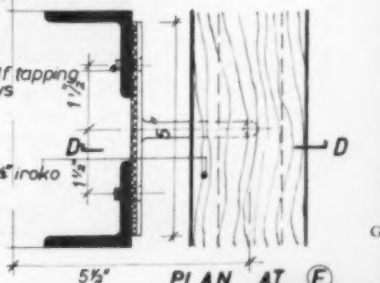
SECTION C-C

DETAILS 1/4 F.S.



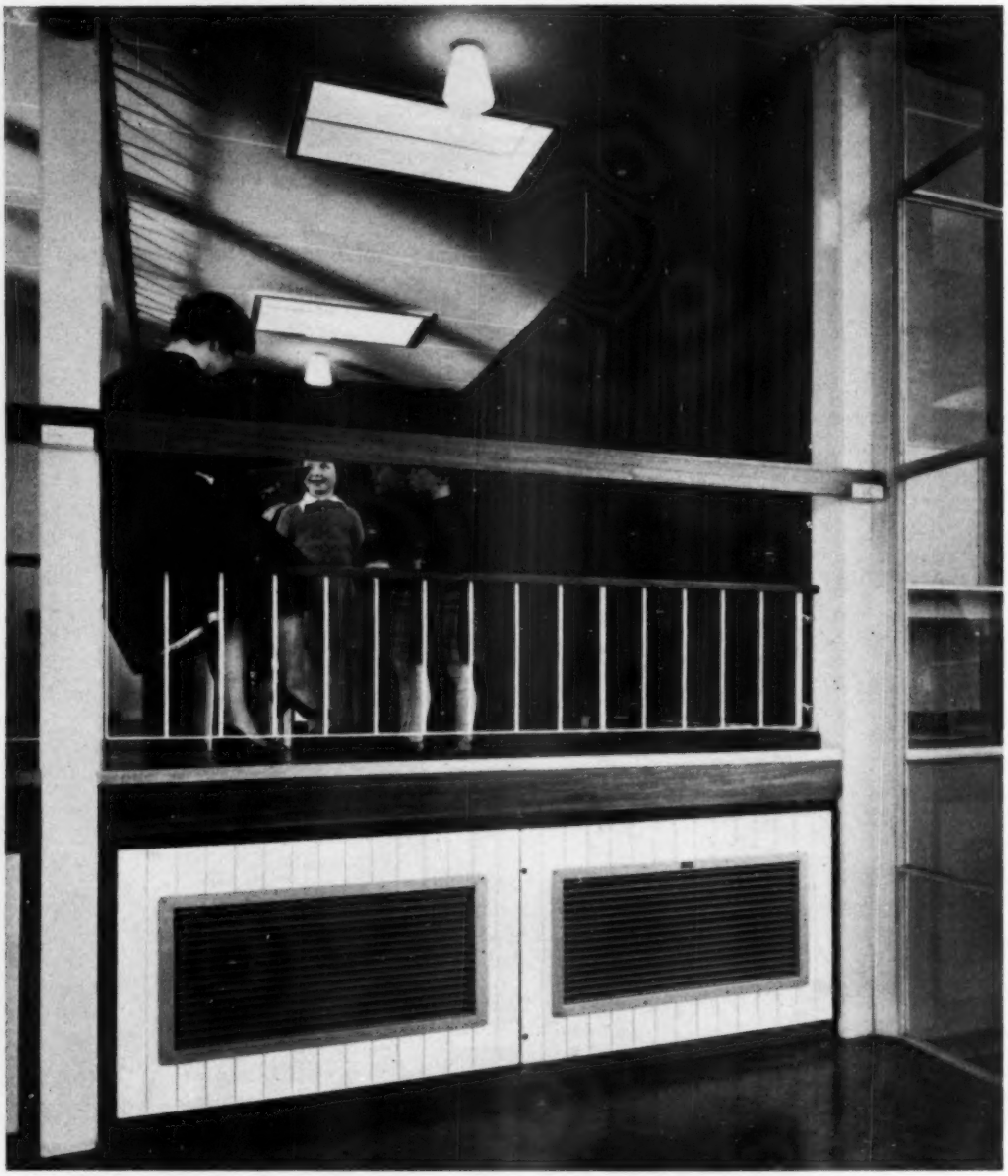
PLAN DETAILS

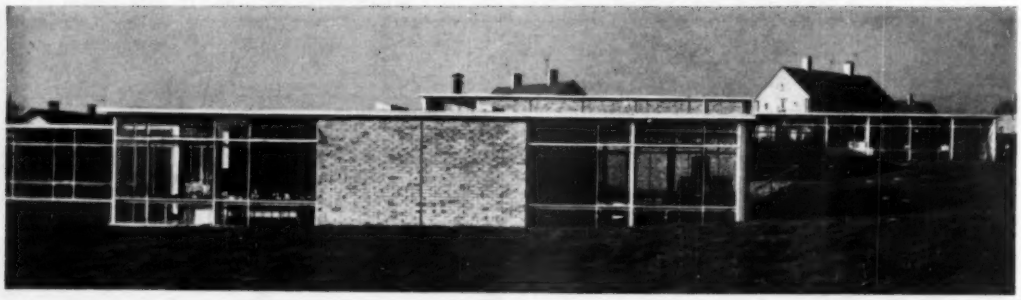
SECTION D-D



PLAN AT E

BALUSTRADE DETAILS. ASSEMBLY HALL INFANTS SCHOOL. HARPENDEN. ARCHITECTS' CO-PARTNERSHIP





The dining area, in the Batford Infants' School, Harpenden, is raised above the general level of the Assembly Hall, and is fitted with removable guard rails and balustrades, the height of which has been scaled down to the age group of children for whom the school was designed. The removal of the rails and balustrades forms an area which can be used as a stage, under which are storage cupboards and warm-air heating cabinets. The guard rail and handrail are in polished iroko with the metalwork painted white. The School was designed by the Architects' Co-Partnership in collaboration with C. H. Aslin, county architect to Hertfordshire County Council

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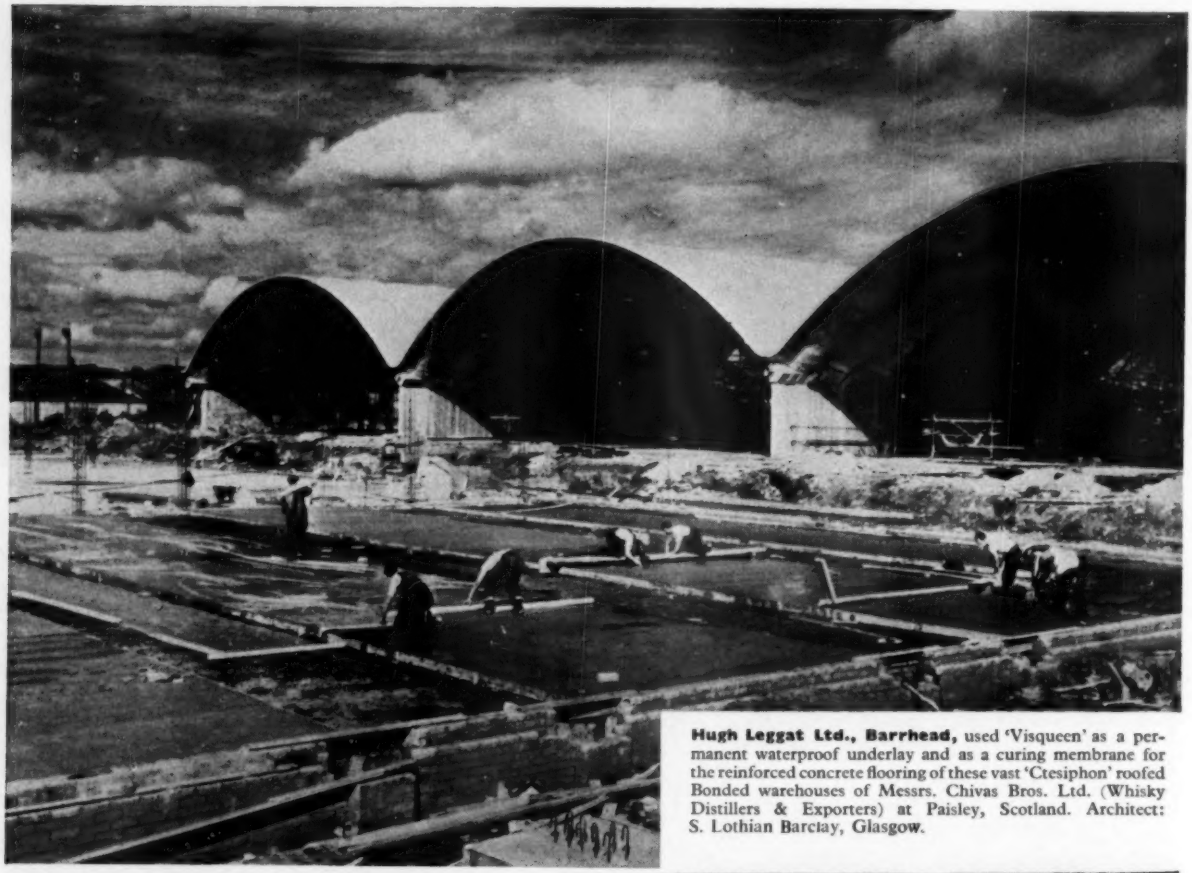

Hugh Leggat Ltd., Barrhead, used 'Visqueen' as a permanent waterproof underlay and as a curing membrane for the reinforced concrete flooring of these vast 'Ctesiphon' roofed Bonded warehouses of Messrs. Chivas Bros. Ltd. (Whisky Distillers & Exporters) at Paisley, Scotland. Architect: S. Lothian Barclay, Glasgow.

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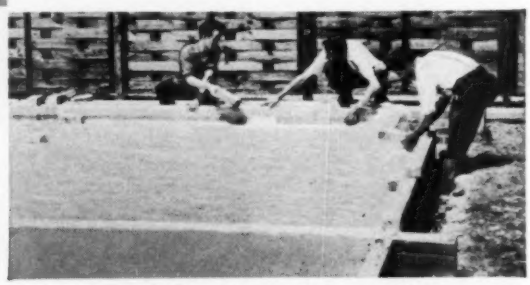

Unity Structures Ltd., London, used 'Visqueen' 500 (heavy weight) as a damp-proof membrane between the hardcore and concrete flooring of these two semi-detached prototype houses built by them at Ruislip. The film was laid at floor level in 12 ft. widths in one continuous strip over the party walls, and built into cavity walls at D.P.C. level.

John Maclean & Sons Ltd. of Wolverhampton, use 'Visqueen' sheeting as a damp-proof membrane under the ground floor rafts of their "Beverley" houses in the Midlands. Architects: Diamond Hodgkinson & Partners.

BV.127

CONTRACT • NEWS •

OPEN

*Notes below give basic data of contracts open under locality and authority which are in a bold type. References indicate: (a) type of work (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading (c) deposit (d) last date of application (e) last date and time for submission of tenders. Full details of contracts marked * are given in the advertisement section.*

BUILDING

BIRKENHEAD B.C. (a) 106 dwellings and 20 garages at Woodchurch estate, Birkenhead. Contract No. 20. (b) Borough Architect, 3 Conway Street, Birkenhead. (c) 2gn. (e) March 4.

• • •

BOURNEMOUTH B.C. (a) (i) Contract W.H. 64, 64 dwellings on West Howe estate; (ii) Contract L.A.16(a) 16 dwellings at Leybourne estate; (iii) Contract R.G.24(b) 24 dwellings on Kinson estate; (iv) Contract K.21, 21 dwellings on Kinson estate; (v) Contract K.24, 24 dwellings, Kinson estate, and (vi) Contract K.4, four dwellings on Kinson estate. (b) Borough Architect (Room 106), Town Hall, Bournemouth. (c) 2gn each contract. (e) March 17 (fixed price basis).

• • •

BRIERLEY HILL U.C. (a) Erection of a new public baths on a site at Cottage Street, Brierley Hill. (b) Architect and Housing Director, Civic Buildings, Brierley Hill, by February 28, giving any references or other information likely to assist the council in their selection. (e) April 6.

• • •

BRIGHOUSE B.C. (a) Erection of branch library at Southowram. (b) Borough Engineer, Commercial Street, Brighouse. (c) £1. (e) March 6.

• • •

CROYDON B.C. (a) Third stage redevelopment of Shrublands housing estate, comprising 216 dwellings in one-, two-, three- and four-storey blocks. (b) Borough Engineer, Town Hall, Croydon. (e) April 7.

• • •

CUMBERLAND C.C. (a) Whole of the work in connection with the erection of the second instalment of the College of Further Education at Workington. (b) County Architect, 15 Portland Square, Carlisle, in writing, with particulars of large contracts carried out. (d) March 2.

• • •

EAST SUFFOLK C.C. (a) Erection of a grammar school at Bungay, estimated to cost £120,000. (b) County Architect, County Hall, Ipswich, to be considered for tendering. (d) March 6. (e) April 9.

• • •

ESTON U.C. (a) (Contract 1) 12 houses, (2) 14 houses, (3) 17 houses, (4) 28 houses and (5) 32 houses, at Grangetown southern section housing estate. (b) Engineer and Surveyor, 246 Normanby Road, South Bank, Middlesbrough. (c) 1gn each contract. (e) March 10.

• • •

FORMBY U.C. (a) Fixed price tenders for the conversion of Hurstwood, Victoria Road, Formby, into flatlets. (b) Engineer and Surveyor, Council Offices, Formby. (e) March 5.

• • •

GREAT YARMOUTH B.C. (a) Fixed price tenders for the erection of (i) eight flats at Hamilton Road/CaisterRoad; (ii) five houses at Gordon Road/Lichfield Road; (iii) 28 flats at Nuffield Crescent; (iv) five houses at Magdalen Way and (v) 15 houses at Emmanual Avenue and

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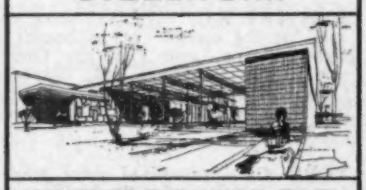
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Wadham Road. (b) Borough Engineer, Town Hall, Great Yarmouth. (c) 2gn. (e) March 6.

* * *

HAVANT AND WATERLOO U.C. (a) Fixed price tenders for the erection of a block of eight flats at Emsworth Road, Havant. (b) Engineer and Surveyor, 1 Park Road North, Havant. (e) March 12.

* * *

LITTLEBOROUGH U.C. (a) One block of eight one-bedroom flats together with ancillary works, on Calderbrook Road estate, Littleborough. (b) Mr F. Lindop, Architect and Surveyor, Bridge Street, Todmorden. (e) March 7.

* * *

LOUGHBOROUGH B.C. (a) Fixed price tenders for the erection of a crematorium. (b) Borough Surveyor, "Southfields", Loughborough, by February 28. (c) 3gn.

* * *

LUTON B.C. (a) Fixed price tenders for (i) Structural steelwork, shops and maisonnettes, Birdsfoot Lane, and (ii) reinforced concrete work comprising stairs, pre-cast floors and roofs, shops and maisonnettes, Birdsfoot Lane. (b) Borough Architect, Town Hall, Luton. (c) 2gn each contract (cheques payable to Corporation). (e) March 19.

* * *

MAIDENHEAD B.C. Contract 5J. (a) three blocks containing three three-bedroom and one four-bedroom houses, five pairs houses, and three pairs houses, together with all necessary drainage and siteworks, at Cox Green estate. (b) Borough Engineer, 14 Craufurd Rise, Maidenhead. (c) 2gn. (e) March 17.

* * *

MERIDEN R.C. (a) New council offices and council chambers at Coleshill. (b) Council's Clerk, Council Offices, Coleshill, Birmingham, with evidence of previous experience of works of this nature and names of architects or others from whom references can be obtained, to be considered for inclusion in the list of tenderers. Work to be commenced on site in June, 1959. (d) February 28.

* * *

OLDHAM B.C. (a) Fixed price tenders for the erection of 72 two-bedroom houses, 43 three-bedroom houses and 24 aged persons' bungalows on the extension to the Fitton Hill estate. (b) Messrs. Cameron & Middleton, 21 Queen Street, Oldham. (c) 2gn (cheques, etc., payable to Borough Treasurer, Oldham Corporation). (e) March 16.

* * *

PORT TALBOT B.C. (a) Erection of two structures, each consisting of two beach kiosks and a promenade shelter at the Aberavon Promenade, Port Talbot. (b) Borough Engineer, Municipal Buildings, Port Talbot. (c) 2gn. (e) March 16.

* * *

READING B.C. (a) Firm price tenders for the erection of 114 dwellings and 48 garages, Burghfield Road, and 78 dwellings and six garages, Coley Park estate, Reading. (b) Borough Architect, Town Hall, Reading. (c) 2gn by cheque for one or both contracts, payable to Corporation. (e) March 13.

* * *

RIPON C.C. (a) Carrying out Bondgate Redevelopment Scheme comprising 13 dwellings and a shop. (b) Town Clerk, Town Hall, Ripon. (d) March 2.

RUGBY B.C. (a) Four blocks of flats and maisonnettes, comprising 30 dwellings at Deepmore Road, Rugby. (b) Borough Surveyor, Church Walk, Rugby. (c) 2gn. (e) March 10.

* * *

SANDBACH U.C. (a) 30 houses in Crewe Road, Site No. 7, Sandbach. (b) Council's Surveyor, Council Offices, Crewe Road, Sandbach, Cheshire. (c) 1gn. (e) March 3.

* * *

SCOTLAND—LANARKSHIRE FIRE BRIGADE JOINT COMMITTEE. (a) Several works in connection with the erection of a new fire station at Biggar. (b) Mr. James J. Shannon, 45 Main Street, Biggar. (e) March 12.

* * *

SOUTHERN ELECTRICITY BOARD (No. 2) (NEWBURY) SUB-AREA. (a) Fixed price tenders for the erection of the superstructure of the new offices, stores and workshops, and alterations of existing office building at 61 Spa Road, Melksham, Contract No. N/B. 353. (b) Sub-Area Engineer, 7 Oxford Road, Newbury. (c) 2gn. (e) March 23.

* * *

SOWERBY BRIDGE U.C. (a) Demolition of the almshouses and erection of six shops and three flats at Sowerby. (b) Engineer and Surveyor, Beech Royd, Beech Road, Sowerby Bridge. (c) 2gn. (e) March 12.

* * *

ST. ALBANS C.C. (a) Six shops with five maisonnettes and eight flats over, and 16 garages and contingent works on London Road estate, St. Albans. (b) City Engineer and Surveyor, St. Peter's Street, St. Albans. (c) 2gn. (e) March 16.

* * *

ST. AUSTELL R.C. (a) Ten houses and site works at Roche. (b) Engineer and Surveyor, "Trevarna", 12 Carlvon Road, St. Austell. (c) 3gn. (e) March 6.

* * *

STOKE-ON-TRENT C.C. (a) Erection of a health clinic and health services centre at Fegg Hayes, to be completed by December 31, 1959. (b) City Architect, Kingsway Chambers, Kingsway, Stoke-on-Trent. (c) £2 (notes). (e) March 26.

* * *

STRETFORD B.C. (a) 18 flats at Larch Avenue, Stretford. (b) Borough Surveyor, Town Hall, Stretford. (c) 2gn. (e) March 7.

* * *

SUNDERLAND B.C. (a) Erection of Grindon Infant School. (b) Borough Architect, Grange House, Stockton Road, Sunderland. (c) 2gn (cheques payable to Sunderland Corporation). (e) March 11.

* * *

SWADLINCOTE U.C. (a) Fixed price tenders for the erection of 44 dwellings on Robinsons Road/Meadow Lane redevelopment area of Newhall. (b) Engineer and Surveyor, Bank House, Midland Road, Swadlincote. (c) 2gn. (e) March 9.

* * *

TENBY B.C. (a) 22 bungalows at Jones Terrace, Tenby, together with the construction of roads, sewers and water mains. (b) Borough Surveyor, Civic Centre, Tenby. (c) 2gn. (e) March 2.

TIPTON B.C. (a) Single-storey building comprising two-bedroom lodge, public conveniences and office blocks at the Cemetery, Alexandra Road, Tipton. (b) Borough Housing Architect, Municipal Buildings, Tipton. (c) 2gn (cheques payable to Corporation). (e) March 12.

* * *

TRURO C.C. (a) 40 dwellings at Malabar estate, 9th section. (b) City Engineer, Municipal Buildings, Truro. (c) 3gn by crossed cheque. (e) March 2.

* * *

WALTHAM HOLY CROSS U.C. (a) nine flats, three houses and three bungalows at Waltham Abbey redevelopment —second stage. (b) Council's Clerk, Town Hall, Waltham Abbey. (d) February 27.

* * *

WARWICK B.C. (a) One three-storey block comprising 11 flats, staircase and laundry room at Linen Street development, together with three single-storey bedsitting-room flats on an adjoining site. (b) Borough Engineer and Surveyor, 23 Jury Street, Warwick, on or after March 2. (c) 2gn. (e) March 23.

* * *

WASHINGTON U.C. (a) 118 houses at Coach Road site, Washington. (b) Engineer and Surveyor, Council Chambers, Washington, Co. Durham. (c) 2gn. (e) March 9.

* * *

WESTON-SUPER-MARE B.C. (a) 113 dwellings on sites at present occupied by temporary bungalows, on Bourneville housing estate, including site works and drainage. The contract will be phased, but continuity of building will exist and it is proposed that it should commence in July, 1959. (b) Messrs. Banks, Wood & Partners, 41 Alma Road, Clifton, Bristol, 8. (c) 2gn (cheques payable to Corporation). (e) March 11.

* * *

WEST RIDING OF YORKSHIRE C.C. (a) Alterations at the Child Welfare Centre, Myrtle Park, Bingley. (b) Divisional Architect, Salisbury Buildings, Albert Street, Harrogate. (e) March 9.

* * *

WORCESTER C.C. (a) Adaptation and extensions to form old people's hostel at Warndon Hall. (b) City Engineer, 22 Bridge Street, Worcester. (c) 3gn (cheques payable to Corporation of Worcester). (d) March 24.

* * *

WORKSOP B.C. (a) 30 houses in Kilton Hill estate, Worksop. (b) Borough Engineer, Park House, Worksop. (c) 3gn. (e) March 6.

* * *

WHISTON R.C. (a) Erection and completion of 40 dwellinghouses on a site at Holt Lane, Whiston. (b) Engineer and Surveyor, Council Offices, Delph Lane, Whiston, near Prescot, Lancashire. (e) March 25.

* * *

WORTLEY R.C. (a) Fixed price tenders for the erection of 16 houses in eight pairs on Lump Lane site, Grenoside. (b) Engineer and Surveyor, Council Offices, Grenoside, Sheffield. (c) £3 (cheques payable to Council). (e) March 2.

* * *

YORK C.C. (a) Fixed price tenders for the erection of 100 dwellings on Chapelfields estate, York. (b) City Architect, 8 St. Leonard's Place, York. (c) £3 (cheques payable to York Corporation). (e) March 2.

PLACED

Notes on contracts placed state locality and authority in bold type with (1) type of work (2) site, (3) name of contractor and address, (4) amount of tender or estimate. † denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

WREXHAM B.C. (1) Erection of Guildhall. (2) Llwyn Isaf. (3) Edward W. Gittens & Sons Ltd., Johnstown, Wrexham. (4) £143,000.

* * *

NORTH RIDING C.C. (1) Extensions to grammar school. (2) Richmond. (3) Moody Bros. (Contractors) Ltd., East Road, Northallerton. (4) £71,500.

* * *

MANCHESTER. (1) Nine-storey office block for Norwich Union Societies. (2) King Street. (3) J. Gerrard & Sons Ltd., Swinton, Manchester.

* * *

OXFORD. (1) Students' hostel. (2) Ruskin College. (3) Vic Hallam Ltd., Langley Mill, Nottingham.

* * *

GUILDFORD. (1) Eight-storey office block with showrooms. (2) Railway Esplanade and Bridge Street. (3) R. Holford & Co. Ltd., Walnut Tree Close, Guildford. (4) £200,000.

* * *

BRISTOL UNIVERSITY. (1) Restoration of Great Hall. (3) H. Willcock & Co. Ltd., Fox Road, Bristol, 2. (4) £200,000.

* * *

COVENTRY C.C. (1) Multi-storey flats (56). (2) Queen Street. (3) George Wimpey & Co. Ltd., The Grove, Hammersmith, W.6. (4) £122,260.

* * *

BRISTOL. (1) Shop and office block. (2) Queen Charlotte Street and Baldwin Street. (3) Holland & Hannen and Cubitts (Great Britain) Ltd., (Site Improvements Ltd., associate company), 1 Queen Anne's Gate, London, S.W.1. (4) £200,000.

* * *

ILFORD B.C. (1) 142 houses. (2) Fulwell estate. (3) Carlton Contractors Ltd., Ashley Road, Epsom, Surrey. (4) £226,021.

* * *

BASILDON DEVELOPMENT CORPORATION. (1) 214 dwellings. (2) Barnstaple neighbourhood. (3) Leslie & Co. Ltd., 20 Peel Street, London, W.8. (1) 82 dwellings, two shops. (2) Barnstable area. (3) W. & C. French Ltd., 50 Epping New Road, Buckhurst Hill, Essex.

* * *

KENSINGTON B.C. (1) Two tower blocks as first stage of new development. (2) Kensal New Town. (3) Unit Construction Co. Ltd., 34 St. James's Square, London, S.W.1. (4) £380,795. (1) 20 flats. (2) Convent Gardens. (3) R. Mansell Ltd., 17 Grant Road, Croydon. (4) £45,172.

* * *

WORCESTERSHIRE. (1) Major extensions. (2) Prince Henry's Grammar School, Evesham. (3) W. A. Cox & Son Ltd., Abbey Gate, Evesham. (4) £91,278.

* * *

BARKING B.C. (1) Houses. (2) Thames View estate. (3) W. J. Jerram Ltd., Sandford Works, Sandford Road, London, E.6. (4) £250,553.

* * *

SHREWSBURY. (1) Redevelopment of a shopping and commercial centre. (2) City centre. (3) John Laing & Son Ltd., Mill Hill, London, N.W.7. (4) £1,000,000.

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RUNCORN U.D.C. (1) 162 dwellings. (2) Grange neighbourhood unit. (3) Thomas Warrington & Sons Ltd., Ellesmere Port, Cheshire. (4) £255,975.

* * *

BRISTOL. (1) Large factory extensions for J. S. Fry & Sons Ltd. (2) Somerdale. (3) J. Knox (Bristol) Ltd., Winterstoke Road, Bristol. (4) £1,000,000.

* * *

MALVERN, WORCS. (1) Building for the Radar Research Establishment, for Ministry of Works. (2) Malvern. (3) Turriff Construction Corporation Ltd., Budbrooke Road, Warwick. (4) £67,000.

* * *

BEDWORTH U.D.C. (1) 56 houses, eight flats. (2) Bulkington. (3) Gregory Housing Ltd., 21 Farncombe Road, Worthing. (4) £81,445.

* * *

BIRKENHEAD B.C. (1) 84 dwellings. (2) Oxton Road. (3) Unit Construction Co. Ltd., Speke Boulevard, Liverpool. (4) £119,584.

* * *

BLACKPOOL B.C. (1) Engineering workshop. (2) Technical College. (3) Fleetwood Construction Co. Ltd., Fleetwood, Lancs. (4) £20,377.

* * *

BOLTON B.C. (1) Eight-storey block of flats. (2) School Hill. (3) G. & J. Seddon Ltd., Little Hulton, Lancs. (4) £51,841. (1) five-storey flats and 26 maisonnettes. (3) Wm. Townson & Son Ltd., Higher Swan Lane, Bolton. (4) £78,416.

* * *

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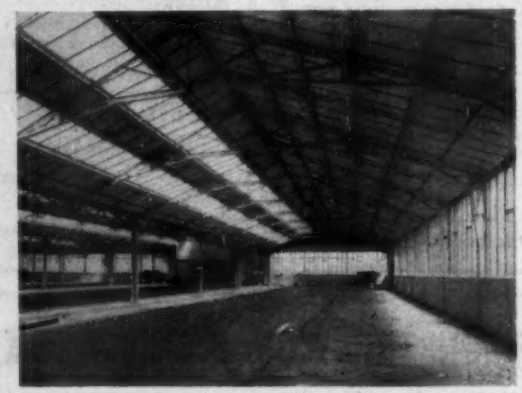

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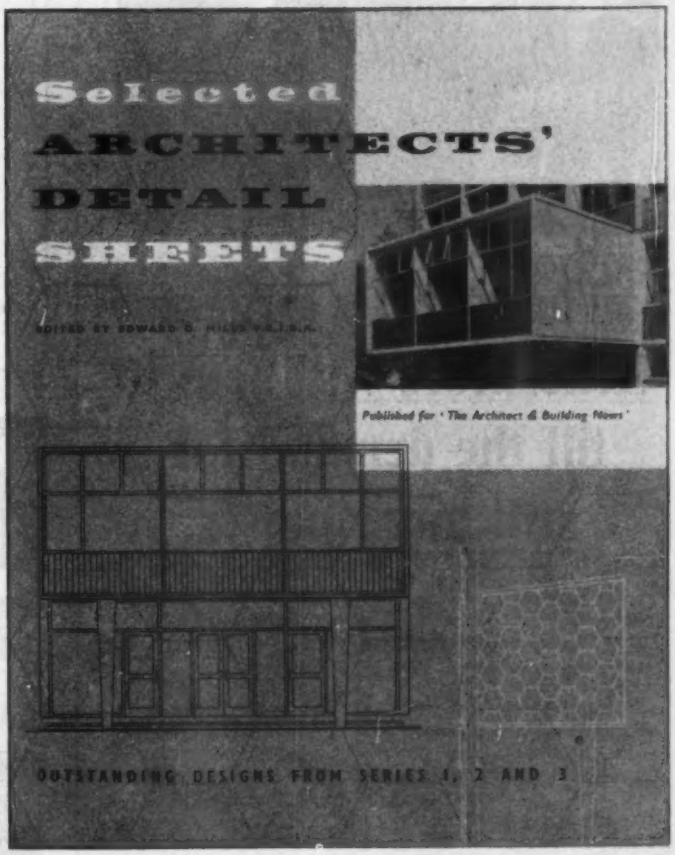

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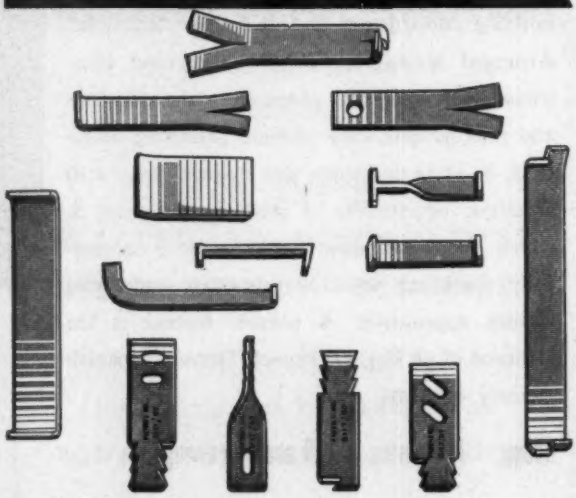

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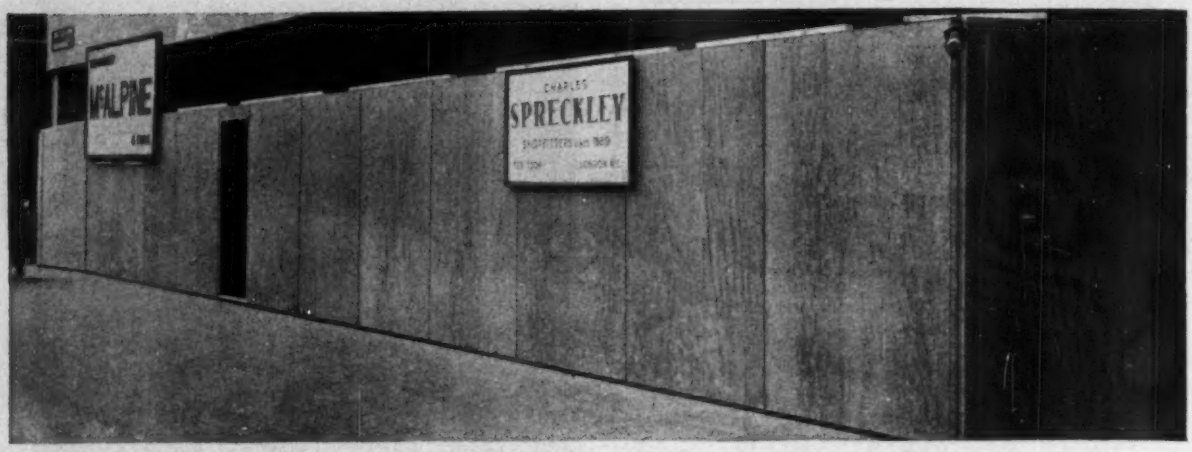

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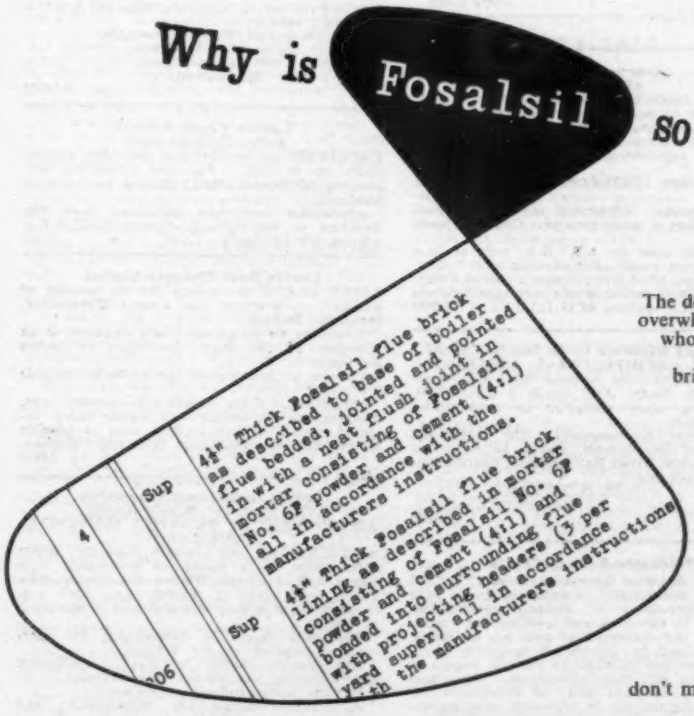
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APPOINTMENTS

Hampshire County Council
ASSISTANT HEATING ENGINEER
APT II (£725/£845)

REQUIRED in the County Architect's Department. Candidates should have passed Section A or Joint Part I of the examination of the I.H.V.E., or hold the Higher National Certificate in Mechanical Engineering, and have experience in heating, ventilating, water and gas services, and be designer draughtsmen. The post is pensionable and subject to a satisfactory medical report. Assistance given with removal and other expenses in approved cases.

Application forms (send s.a.e.) returnable by March 6, from the Clerk of the County Council, The Castle, Winchester. [4878

City and County of Newcastle upon Tyne
City Architect's Department

CONSEQUENT upon revisions to the establishment of his department, the City Architect will be pleased to receive applications from suitably qualified persons for the following Architectural and Quantity Surveying vacancies:

General Section. APT V; APT IV; Special Class and APT II.

Education Section. APT V; APT IV, and APT II.

Housing Section. APT IV; Special Class; APT II, and APT I.

Rehousing Section. APT IV; Special Class, and APT II.

Quantity Surveying Section. Scale "B"; APT V, and APT IV.

The salaries applicable to the above Grades are:
Scale "B" (£1,210/£1,440 per annum) (subject to the recent award of the Industrial Court).
APT V (£1,175/£1,325 per annum).
APT IV (£1,025/£1,175 per annum).
Special Class £750/£1,030 per annum).
APT II (£725/£845 per annum).
APT I (£575/£725 per annum).

The department is engaged upon an interesting and varied programme of work, including multi-storey flats, redevelopment schemes, further education projects, and a variety of general building works.

Application forms and full particulars may be obtained from George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18 Cloth Market, Newcastle upon Tyne, 1. Applicants must state the Section and Grade applied for when requesting particulars.

Closing date for receipt of completed applications: Monday, March 16, 1959.

JOHN ATKINSON,
Town Clerk.

Town Hall,
Newcastle upon Tyne, 1.
February 19, 1959. [4879

Borough of Stratford upon Avon
APPOINTMENT OF SENIOR ASSISTANT ARCHITECT

APPLICATIONS are invited for the above appointment at a salary in accordance with APT Grade IV £1,025/£1,175). Candidates must be Registered Architects, preferably with previous Local Government experience.

The appointment will be subject to the National Scheme of Conditions of Service of Local Government Officers, to the provisions of the Local Government Superannuation Acts, and to the successful candidate passing satisfactorily a medical examination. The appointment will be terminable by one month's notice on either side.

The Council will, if necessary, be prepared to consider the provision of housing accommodation.

Forms of application may be obtained from the undersigned to whom completed forms should be returned not later than Thursday, March 12, 1959.

P. C. SMART, M.I.C.E.,
Borough Engineer's Department,
Borough Engineers ' Department,
Municipal Offices.
Stratford upon Avon.
February 18, 1959. [4880

County Borough of Blackpool

APPLICATIONS (by Friday, March 6, 1959) are invited for the post of Town Planning Assistant, APT IV (£1,025/£1,175 per annum) in the Borough Surveyor's Department.

Commencing salary will be fixed at any point within the grade in accordance with experience.

Application forms and particulars obtainable from Borough Surveyor (Arthur Hamilton, B.Sc.), P.O. Box 17, Municipal Buildings, Blackpool.

ERNEST C. LEE,
Town Clerk.
[4862

APPOINTMENTS (cont)

London County Council
Architect's Department

APPLICATIONS are invited for appointment as Principal Housing Architect, to be responsible to the Architect for the Housing Division (total staff about 340), which is responsible for the design and erection of most of the Council's housing. Experience of public architecture is not essential but the person selected must be able to organize, lead and inspire a large division. Commencing salary according to qualifications and experience within scale £2,450 x £100—£2,650 a year. The position is permanent and pensionable. Further particulars and application form from Clerk of the Council (CL/G), County Hall, London, S.E.1. Returnable by March 23, 1959. (332) [4864

County Borough of Blackpool

APPLICATIONS (by Friday, March 6, 1959) are invited for the following posts in the Borough Surveyor's Department:

Assistant Architects. Special scale (£750/£1,030 per annum).

Architectural Assistants. APT I (£575/£725 per annum).

Application forms and particulars obtainable from the Borough Surveyor (Arthur Hamilton, A.R.I.B.A.), P.O. Box 17, Municipal Buildings, Blackpool.

ERNEST C. LEE,
Town Clerk.
[4861

County Borough of Bury

APPLICATIONS invited for position of Architectural Assistant, Special Grade (£750/£1,030 per annum). Commencing salary according to qualifications and experience.

Applications stating age, training and qualifications, present and previous appointments and experience, together with names and addresses of two referees, must reach me by March 9, 1959.

EDWARD S. SMITH,
Town Clerk.

Town Hall,
Bury. [4876

Government of Aden
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Write Director of Recruitment, Colonial Office, London, S.W.1, stating briefly, age, qualifications and experience, quoting BCD 112/2/03. [4890

Beeston and Stapleford Urban District Council
JUNIOR ARCHITECTURAL ASSISTANT

APPLICATIONS are invited for the above appointment. Salary APT Grade 1 (£575/£725). Commencing salary according to qualifications and experience.

Applications, accompanied by the names and addresses of two referees, should be forwarded to the Surveyor, Town Hall, Beeston, Nottingham, as soon as possible.

H. D. JEFFRIES,
Clerk of the Council.
[4863

Paddington Borough Council

REQUIRE Building Surveying Assistant, APT I (£605/£755 per annum). Candidates should have practical knowledge of building construction, experience in surveying and levelling, the repair, adaptation and conversion of civic and residential properties, and be capable of preparing plans, specifications and estimates of costs in respect of those works and their supervision. Candidates preferred at advanced stage of preparation for R.I.C.S. Intermediate or equivalent examination. Written applications stating age, qualifications, experience and names and addresses of three referees should reach the undersigned (quoting A.402) by March 2, 1959.

W. H. BENTLEY,
Town Clerk.

Town Hall,
Paddington Green, W.2. [4870

APPOINTMENTS (cont)

County Borough of East Ham
Borough Engineer's Department

APPLICATIONS are invited for the following temporary appointments:

Senior Assistant Architect, Grade IV (£1,025/£1,175).

Architectural Assistant, Grade II (£725/£845).

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Further details and application forms, returnable by March 13, 1959, from the Town Clerk, Town Hall, East Ham, E.6. [4891

Government of Jamaica
SENIOR ARCHITECT
Town Planning Department

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Write to Director of Recruitment, Colonial Office, London, S.W.1, giving age, qualifications and experience quoting BCD 62/32/01. [4889

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[4872

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Architect's Department

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London Brick Company Limited

APPLICATIONS are invited for the position of Assistant Architect in the Estates Department, Stewartby, Bedford.

It will be an advantage if the applicant is an Associate of the Royal Institution of British Architects.

Housing accommodation can be made available if required.

Aplications, giving details of training, age, qualifications, experience and stating salary required, should be submitted as soon as possible to the Personnel Manager, Stewartby, Bedford. [4854

Aycliffe Development Corporation
(New Town and Newton Aycliffe)
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Applications stating age, qualifications and experience together with the names of two referees to arrive not later than Wednesday, March 11, 1959.

A. V. WILLIAMS,
General Manager.

Newton Aycliffe,
Nr. Darlington,
Co. Durham. [4877

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ARCHITECTURAL ASSISTANT required to work on industrial buildings. Preferably qualified, with minimum of two years' experience. Salary according to age and experience. Ramsey, Murray, White & Ward, 32 Wigmore Street, W.1. [4856

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BASIL SPENCE & PARTNERS require qualified Assistants, with at least three years' experience, to work on university buildings. Write to 48 Queen Anne Street, W.1, stating experience and also salary required. [4883

JUNIOR ARCHITECTURAL ASSISTANT required for varied London practice. Good experience and opportunities available. Please state age, salary required, etc. Box 2088. [4873

JOHN LAING AND SON LIMITED invite applications for the following vacancies in their Architect's Department (Chief Architect: Sydney Grenwood, A.R.I.B.A.), at their head office in N.W. London.

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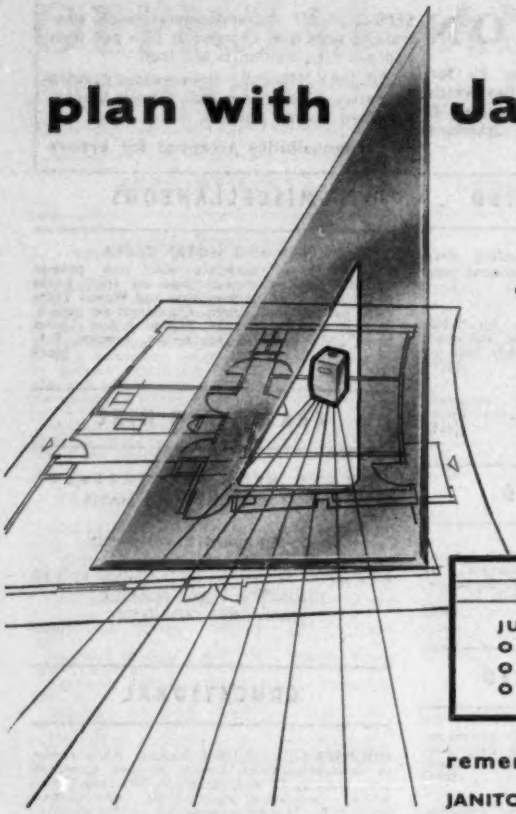

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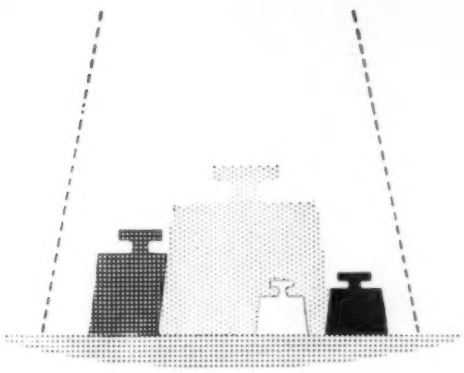

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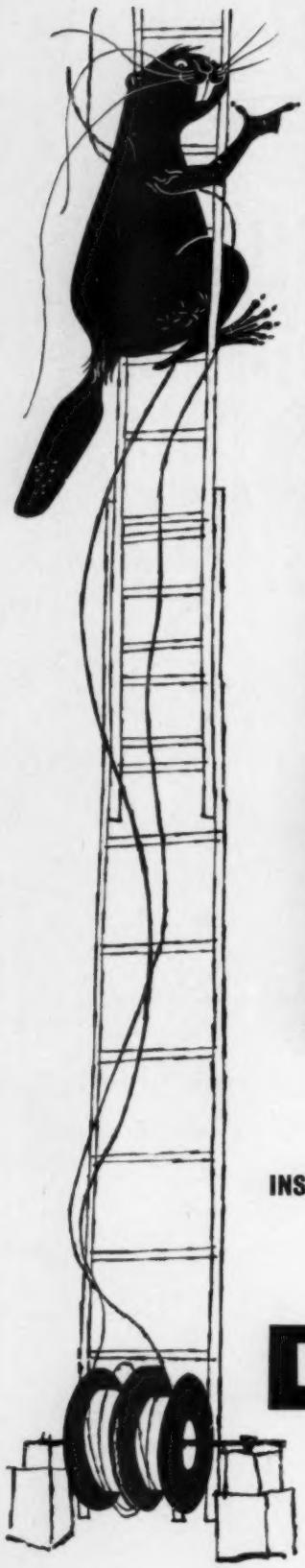

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